October, 1958

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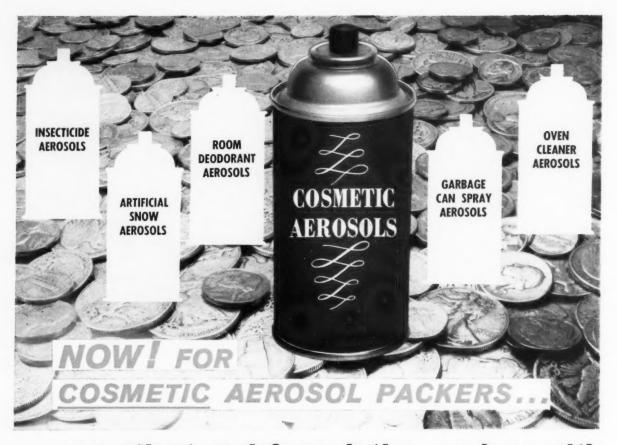
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Novel and attractive package for new "Moisture Cream" of Andrew Jergens Co., Cincinnati. In two and four ounce bottles. Hour-glass bottle and seals by Anchor-Hocking. Seals in pastel blue. Hue-gold labels with cream lettering.





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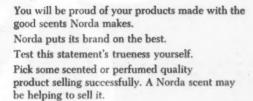
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### WATER EMULSION WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY®
CANDY'S SUPREME Special WR
SUPER CAND-BOX®
(AND-BOX® # CS
[\*INDI-WIX #4000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

## **Beauty and Durability**

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

## Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax...beauty and protection.

## Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Over-doing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

## **Solid Content**

The percentage of solid content is not nearly as important as the quality of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Overwaxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

## Carnauba Wax

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

## Other HIGHEST QUALITY products of CANDY & COMPANY, Inc.

### CANDI-COAT 1000, WATER RESIN EMULSION

As a floor coating for use under specific conditions of continued maintenance on certain types of floors this water resin emulsion has none of the faults associated with coatings of this type. It is the finest product in its class produced up to this time.

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For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

## Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

## Bright Beauty PASTE WAX

Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and

### Bright Beauty LIQUID (spirit) PREPARED WAXES

A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry

cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, walloaper, etc.

## Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a glass cleaner (pink color) it applies evenly with little effort, wipes off easily with regligible "powdering" and produces an undeniable "feel" of cleanliness to glass. As a cleaner of silver, it polishes to a high lustre without abrasion and can even correct the abuses of scratchy "quick-polish" inferior products.

### Bright Beauty DANCE FLOOR WAX

Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

## Bright Beauty Heavy Duty PASTE CLEANER

Cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

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Now you can have dramatic, colorful labeling of your private brand neme on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

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## SOAP and CHEMICAL SPECIALTIES

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## MEMBER



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## 

Today's pets lead a better and cleaner life, thanks to several Victor phosphates. Whether used for powdered soap or a synthetic detergent, the synergistic action of Victor polyphosphates is as faithful and loyal as Fido.

Looking for a dependable source of phosphates for your pet product? Troubles literally go down the drain when you rely on Victor. At a single command from you, we'll show you why so many compounders claim, "It pays to see Victor."

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tripolyphosphate, used in combination with other chemicals, makes child's play out of an old chore. Dishes, glassware and table service sparkle without spots dishes are in the sink. Victor sodium And no need to worry about how many or film.

## Twin assets

Compounders know their products give double satisfaction when they contain Add chlorine to the powerful cleaning action of TSP and you get an antisep-Victor chlorinated trisodium phosphate. tic-plus that makes compounders say, "It pays to see Victor."

## Takes a powder

plus powdered soap containing Victor tetrasodium pyrophosphate-to make sure her laundry always comes out clean No need for her to stand around and wait on washday. Today's housewife can depend on her mechanical washeras a whistle.



for 60 Years



SOAP and CHEMICAL SPECIALTIES

## From NOPCO comes the Hyonic® PE Series of compounds to improve your

## DEFOAMERS · EMULSIFIERS DETERGENTS · WETTING AGENTS

salt solutions.

As a group, ethylene oxide condensates of alkylated phenols have become one of the major classes in the surface-active field. The great range of oil solubility of the alkyl phenols, plus the infinite water solubility of ethylene oxide, when combined, provides almost limitless hydrophobic-hydrophilic ratios. Depending on the molarity of the ethylene oxide chain, products can be prepared which embrace the entire surfactant range.

Hyonic PE compounds are a homologous series of octyl phenol condensates. The differences in their ethylene oxide molarity give them diversified properties which adapt them to a wide variety of applications.

The lower numbered compounds in this series are useful as emulsifiers and emulsifier components. Alone or combined with anionics, they produce emulsions which are resistant to the salts of hard water. They are also used in dry cleaning solvent systems, where they improve water carrying properties and detergency. They also function as solvents and are included in waterless hand cleaning formulas.

Hyonic PE 30 is used extensively as a defoamer.

Hyonic PE 70, PE 90, PE 100 and PE 150 offer the greatest utility of this entire class of compounds. From among them is to be obtained the best performance available in detergency, wetting and foaming. All four may be used in emulsifier blend to achieve precise hydrophobe-hydrophile control.

Hyonic PE 70, in addition to exhibiting exceptionally good wetting and detergency powers, is a low foaming compound of a factor of real importance in many industrial and household detergent formulations.

Hyonic PE 90 and PE 100 rank as two of the most widely accepted detergents and wetting agents available today. Their properties give them almost infinite applications in industry. Hyonic PE 150 performs well as a wetting agent and high foaming detergent. When blended with other nonionics, its very high cloud point contributes increased solubility and detergency at high temperatures and in more concentrated

Hyonic PE 200 and PE 300 are valuable as components of detergent or wetting systems at high temperature. They are also highly soluble in concentrated salt solutions.

### CHEMICAL AND PHYSICAL PROPERTIES

Hyonic Compound									Moles— Oxide Ethylene	Cloud Point*	
Hyonic	PE	30							3	Insoluble	
Hyonic	PE	50							5	Below 0°C	
Hyonic	PE	70							7	13°C	
Hyonic	PE	90	×			*			9	54°C	
Hyonic	PE	100							10	65°C	
Hyonic	PE	150							15	96°C	
Hyonic	PE	200		×					20	100°C	
Hyonic	PE	300							30	100°C	

\*Temperature at which a 5% aqueous solution becomes turbid on warming

Nopco manufactures a complete line of surface-active chemicals, and manufacturers who place a single order for all their needs make a dual saving—they qualify for quantity discounts and they save on freight.

Write today for samples and literature on the Nopco Hyonics PE series. And let Nopco chemists help tailor your product to your exact performance and sales requirements. They are waiting to go to work for you. Nopco Chemical Company, Harrison, N.J.



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Ultrawet 60L is a pale yellow, viscous liquid composed of 60% organic alkyl aryl sulfonate and 40% water. It is immediately soluble in water and is clear and bright even at temperatures below  $20^\circ$  F.

Take a tip from the pros. Investigate Atlantic Ultrawet 60L for your shampoo formulations. For full information, write or wire Chemicals Division, The Atlantic Refining Company, 260 South Broad Street, Philadelphia 1, Pennsylvania.

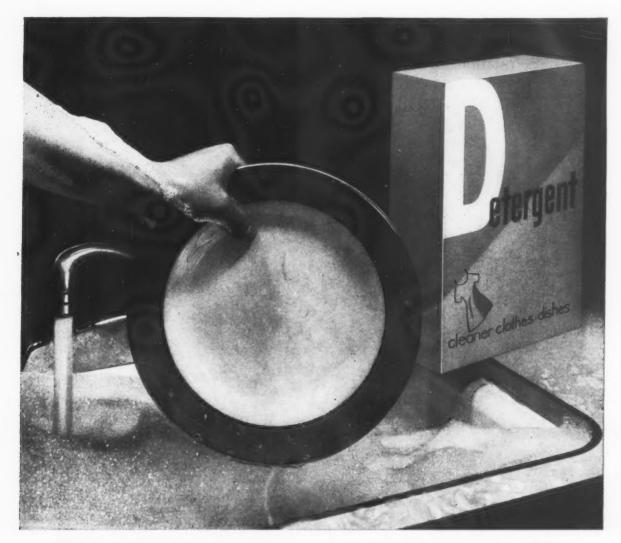


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## Your detergent has <u>more</u> sequestering power with specially processed Shea phosphates made only by Hooker

An exclusive phosphate drying process gives you the highest sodium tripolyphosphate content in the industry-97 to 99%. This extra STPP content—available only from Hooker—gives your detergent added cleaning action. Tetrasodium pyrophosphate content averages 99% or better.

**Greater Package Appeal** 

What's more, these spray-dried phosphates give you the opportunity for greater package appeal. Their 70% greater bulk means a 20 to 30% larger detergent package for you. Yet, Shea phosphates cost no more than conventional types.

Solution is two to three times faster than for conventional types. These spray-dried granules are hollow, air-filled beads with a greater surface area. This permits them to go into solution quickly and easily—without prolonged agitation. They are virtually dust-free and will neither bridge nor cake.

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## GROCOL 600

## by all tests, the best Hydrogenated Tallow Glyceride

Strict quality control in the manufacture of GROCOL 600 Hydrogenated Tallow Glyceride has established a new benchmark for the industry—an iodine value of below 0.5.

This indicates extremely low unsaturates and assures correspondingly long shelf life for your products – whether quality plasticizers, esters, lubricants or finishing agents.

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Your payoff in sales will improve if you "Always specify A. Gross" Hydrogenated Tallow Glyceride —GROCOL 600. You can see why.

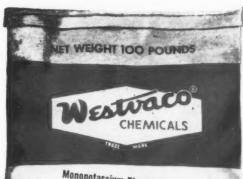
Send for samples and brochure, "Fatty Acids in Modern Industry."

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Sodium Acid Pyrophosphate

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Trisodium Phosphate Monohydrate



Tetrasodium Pyrophosphate Crystals

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Now, with greater capacity than ever before, a wide range of Etho-Chemicals will be produced—all from one central location. A high degree of uniformity and quality will be maintained with these new facilities. In addition, Armour can now assure you improved delivery service—and lower prices!

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To get an idea of what these unique chemicals are doing—and what new ethoxylated surfactants can do for you—write for samples, current literature and new price lists.



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## ISO-BERGAMATE "DRAGOCO"

resembles the fragrance of the bergamot oil, along with a soft fruitiness and a delicate, woody background.

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to accentuate fine flower scents particularly for jasmin proven essential in deluxe perfumery.

## **LACTOSCATONE "DRAGOCO"**

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## NEOLENE 400

The proven chemical intermediate . . . Neolene\* 400 . . . is used by many of the world's leading processors of detergents and surfactants. It is an alkyl benzene of the highest quality and is an exceptional base for both liquid and dry detergents. Why not put Neolene 400 to work for you? Its many characteristics include:

- Stability during sulfonation
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- Makes detergents with exceptional wetting, cleansing and foam properties

May we suggest that you call or write today for samples and more information about Neolene 400.

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QUALITY—Neolene 400 is consistently high in quality as are all other Conoco petrochemicals. This reputation for quality is the result of steadily improved production facilities and Conoco's determination to find better ways to produce superior products.

QUICK DELIVERY—Conoco's extensive distribution facilities assure you fast service, whether by tank car, tank truck, or barge. This assurance of quick, efficient delivery simplifies your own inventory and storage problems.

TECHNICAL ASSISTANCE — Whether you purchase in large or small quantities, Conoco technicians stand ready to help you improve a product or a process, to find new applications, to suggest ways of cutting costs.



Petrochemical know-how from the ground up!

# what every detergent compounder knows... Compounders tell us its search for new cleansing and true performers are

but sometimes forgets

Compounders tell us that in the continuing search for new cleansing products, the tried and true performers are occasionally overlooked. One such performer is Trisodium Phosphate, Chlorinated which is sold under private label or as an adjunct in compounded cleansers. This popular and versatile chemical does just about everything any end user may require of a cleanser.

As a bactericide and disinfectant, it's tops. Ditto as a sanitizing cleanser. Ditto, once more, as a deodorizing agent.

Trisodium Phosphate, Chlorinated is a double salt of Crystalline Trisodium Phosphate and Sodium Hypochlorite with an available chlorine content of over 3.25%. It combines the cleansing effectiveness of Trisodium Phosphate with the bleaching and sanitizing properties of Sodium Hypochlorite ... a request on your letterhead will bring a sample and technical data.



Sodium Tripolyphosphate • Tetrasodium Pyrophosphate • Trisodium Phosphate (Crystalline-Monohydrate) • Trisodium Phosphate (Crystalline-Monohydrate) • Trisodium Phosphate (Crystalline-Anhydrous) • Monosodium Phosphate (Anhydrous-Monohydrate) • Sodium Polyphos (Sodium Hexametaphosphate • Sodium Tetraphosphate) • Sodium Acid Pyrophosphate • Tetrapotassium Pyrophosphate • Sodium Fluoride • Sodium Silicofluoride • C-29 Sequestering Agent • Teox 120 (Nonionic Surfactant) • Hydrofluoric Acid • Sulfuric Acid

## BLOCKSON CHEMICAL COMPANY

Joliet, Illinois / Division of Olin Mathieson Chemical Corporation





## After Closing

## **Canadian Specialties Program Set**

**F** ORUMS on various chemical specialties products groups will highlight the first annual meeting of the Association of Canadian Chemical Specialties Manufacturers to be held Wednesday, Nov. 12 through Friday Nov. 14 at the Queen Elizabeth Hotel, Montreal.

Business meetings of the newly formed association will occupy the first day of the convention (Nov. 12), when the board of directors holds a morning meeting to outline association plans for the coming year. The six divisions of the association meet in the afternoon of Nov. 12 to discuss programs for the ensuing year.

The annual meeting, including the election of officers and the address of the president in outlining the role of the association in 1959 will occupy the morning session, Nov. 13. A group luncheon follows this session and will be addressed by the Honorable J. M. MacDonnell, Minister without Portfolio, Ottawa.

Forums scheduled for the afternoon of Nov. 13 include: Pesticides, waxes and floor finishes, aerosols and soaps and detergents. The highlight of the pesticide forum will be a discussion of a proposal for CCSM collaborating with the Canadian Beautification Assn. in its spring campaign. Speaking at this session will be Bearce P. Campbell, chairman of CBA and Ralph Howard, Wisconsin Alumni Research Foundation. A general outline of CBA will be given by Mr. Campbell, while Mr. Howard will discuss community rodent control. Community mosquito or insect control and weed control are also slated to be covered at this session.

Lee Prince, Reichhold Chemicals, Inc. Elizabeth, N. J., will review "Recent Trends in Aqueous Floor Polishes" during the waxes and floor finishes forum. Also speaking will be I. Y. Straus, Dura Commodities Corp., New York, on "Practical Considerations in Film Improvement of Plastic Floor Dressings."

"The Present and Future Role of Silicones in Aerosols" will be discussed by John A. Fisher of Dow Corning Silicones, Ltd., Toronto, during the aerosol forum. J. Demsey of Continental Can Co., Ltd., Montreal, will speak on the "Development of Metal Aerosol Containers - Past, Present and Future."

Two papers are scheduled to be presented during a meeting of the soaps and detergents division. "Technical Trends in the Soaps and Detergents Industry" is

## Ungerland Named V. P.

. Joseph A. Ungerland has been appointed vice-president of Polak & Schwartz, Inc., New York, it was announced last month by the company.

Mr. Ungerland has been with the firm for 18 years and has been active in the perfume industry since 1933.

Joseph A. Ungerland



the title of a paper to be given by Dr. R. B. Wearn, director of research, household products division, Colgate-Palmolive Co., Jersey City, N. J. Also speaking at this session will be Ernest Orr, president of Orr Associates, Ltd., Toronto, who will discuss "Trends in Packaging for People."

Open house night is set for the evening of Nov. 13.

Forums of six product groups resumes Friday morning. Nov. 11. Dr. E. G. Klarmann, vicepresident and manager of technical services of Lehn & Fink Products Corp., New York, will speak on "Hospital Infection and Environmental Disinfection" before the disinfectant and sanitizers forum. He will be followed by Dr. D. H. Starkey, M.D., adviser for laboratory service to the director general. treatment services, Department of Veterans Affairs, Queen Mary Vetcrans Hospital, Montreal. Dr. Starkey's topic is "Hospital Sanitation in Canada."

The forum on soaps and detergents will hear two papers. Dean M. Prather, president of A. C. Nielsen Co. of Canada, Ltd., Toronto, will discuss latest marketing research techniques. Also, R. P. Beadon, director of advertising, Procter & Gamble Co., Ltd., Toronto, will cover "Modern Marketing in the Soaps and Detergents Industry."

Pesticides forum topics include: "Trends in Legislation" by C. H. Jefferson, Plant Products Division, Federal Department of Agriculture, Ottawa. Stirling Mac-Leod, also of the Federal Department of Agriculture, Ottawa, will speak on "Household Insecticides— A Scientific View."

"Development, production and Synthesis of Fischer-Tropsch Waxes" will be the title of a paper by Charles T. O'Connor, Shanco Plastics & Chemicals, Inc., Tonawanda, N. Y. He will speak during the second waxes and floor finishes, forum. At the same session a paper, "The Design of Polymer Emulsion Coatings," by Lloyd H. Perry, Roland M. Avery, Jr., and Richard H. Cahill, UBS Chemical Corp., Cambridge, Mass., will be presented.

R. K. Watson, chairman of the Canadian Freight Assn., will speak on "Making Freight Rates" in a post-luncheon address, Nov. 14.

Two forums, one on aerosols and the other on automotive specialties, are slated for the afternoon of Nov. 14. The "Technical Aspects of Aerosol Packaging" by Grant L. Armstrong, Du Pont Company of Canada, Ltd., Montreal, will be covered at the aerosol meeting. A representative of Precision Valve Corp., Yonkers, N. Y., will discuss nitrogen propellants in pressure packaging at this session.

The concluding presentation of the meeting will be given by G. H. Wood, President of G. H. Wood Co., Toronto. He will speak on "Sale of Household Chemicals to the Consumer."

A cocktail party precedes the banquet and floor show. Jean Gillet, vice-president of the Montreal Committee is to be the banquet speaker.

## **Rules Detergents Cosmetics**

Synthetic detergents for "cleansing the body" are subject to all provisions of the Federal Food, Drug and Cosmetics Act, it was ruled by the Food and Drug Administration, Sept. 26. In a policy statement FDA thus ruled that "detergent substances, other than soap, intended for use in cleansing the body", are "cosmetics" and thus subject to all provisions of the Act. The Act exempts soaps "intended to be rubbed, poured, sprinkled . . . or otherwise applied to the human body or any part thereof for cleansing . . . ". The new ruling excludes "detergent substances" from this exemption and classifies them as cosmetics.

The new ruling, which is based on chemical composition, instead of the popular conception of end use, defines "soap" products to



New "king size" (92 ounces) package for "Rinso Blue" detergent of Lever Brothers Co., New York. Introduction of "king size" package will be supported by full schedule of daytime TV ("House Party", "Haggis Baggis", "Treasure Hunt", and "Play Your Hunch"), night time TV ("Have Gun Will Travel"), and network daytime radio. "Giant economy" sizes of 60 ounces is shown in center, and at right is "regular" size: 22 ounces.

include preparations meeting these conditions: "1. The bulk of the non-volatile matter in the product consists of an alkali salt of fatty acids and the detergent properties of the articles are due to the alkalifatty acid compounds; and 2. the product is labeled, sold and represented only as soap."

### **New Essential Oils Firm**

Pierre Coutin Associates has been formed in New York City by Pierre Coutin, former president of Ph. Chaleyer, Inc., New York. Mr. Coutin has been president twice of the Essential Oil Association of the U. S. A.

The new essential oils firm is located at 219 E. 60th St., New York 22. Mr. Coutin was with a French essential oil house for 27 years before joining Chalever.

## Sagarin Joins Embassy

Edward Sagarin, author and lecturer in the field of perfumery, has joined the staff of Embassy Laboratories, Inc., private label cosmetic manufacturer, Brooklyn, N. Y., it was announced last month by Franklin H. Cooper, founder of the company.

Mr. Sagarin supervises sales and customer relations for the firm and was previouly associated with Standard Aromatics, Inc., and Givaudan-Delawanna, Inc. He is author of "Science and the Art of Perfumery;" translator of "Natural Perfume Materials;" and was special lecturer in perfume materials and perfumery at Columbia University.

Embassy began full operation last month at its recently acquired plant, laboratories, and offices, 2896-98 Fulton St., Brooklyn 7.

### **Roberts in Contempt**

Roberts Chemicals, Inc., Nitro, W. Va., was held to be in contempt of court in a ruling handed down last month by the U.S. District Court for the southern district of West Virginia. Roberts was charged with violating an injunction designed to stop alleged infringement of the patent under which Rohm & Haas Co., Philadelphia, markets its "Dithane" fungicide.

The court ruled that Roberts sold nabam, amobam and zineb to the citrus industry as a miticide, insecticide and fungicide, uses which allegedly infringe the Rohm & Haas patent. The judge also dissolved a temporary restraining order against Rohm & Haas.

D. S. Frederick, Rohm & Haas vice-president, stated that "the ruling confirms our position that the use on citrus of nabam, zineb and amobam is a use covered by our patent."

## **CSMA** Announces Meeting Program Details

TENTATIVE program details for the 45th annual meeting of the Chemical Specialties Manufacturers Association, to be held Dec. 8-10, at the Hotel Commodore, New York, were announced recently by H. W. Hamilton, CSMA secretary.

The Soaps, Detergents and Sanitary Chemical Products Division will once again feature a symposium. This year's will deal with anionic surface active agents. Chairman of the symposium will be Dr. A. M. Schwartz of Harris Research Laboratories, Washington, D. C. Papers to be presented at one of the division's sessions include: "Anionic Surface Active Agents in Heavy Duty Household Detergents," by C. C. Tillotson, Procter & Gamble Co., Cincinnati; "Anionic Surface Active Agents in Light Duty Household Detergents," by a speaker from Lever Brothers Co., New York; "Anionic Surface Active Agents in Toiletries and Personal Products," by Dr. I. M. Longfellow of Colgate-Palmolive Co., New York. "Anionic Surface Active Agents in Heavy Duty Industrial Cleaners," by J. B. Davidson, Cowles Chemical Co., Cleveland, Dr. J. Edward Lynn will speak on "Anionic Surface Active Agents in Textile Processing."

A symposium is planned for the Insecticide Division's first session on Tuesday, Dec. 9. Participants and their subjects include: Dr. J. B. Moore, McLaughlin Gormley King Co., Minneapolis, on "Repellents R-11" and "R-326"; G. A. Neumann, Union Carbide Chemicals Co., New York, "New Information on Repellent '6-12' "; Dr. B. T. Snipes, Chemagro, New York, on "Co-Ral" livestock insecticide; Dr. S. A. Hall of the U. S. Department of Agriculture, on "Barthrin", and Don Baldwin of Dow Chemical Co., Midland, Mich., on "ET-57."

A joint session with the Disinfectants and Sanitizers Division is planned by the Insecticide Division for the afternoon of Dec. 19. At this session Dr. Justus Ward of USDA will speak on labelling. Also planned is a speaker from the U. S. Public Health Service on organisms transmitted by insects.

As part of its an packaging contest the Aerosol Division plans an aerosol "supermarket," See details on page 137.

The CSMA board of governors meets on Monday, Dec. 8, the day before the formal opening of the meeting. On this day, too, other committees and subcommittees will meet.

## **New Division Set-up**

A new chemical products division has been established by Union Bag-Camp Paper Gorp., New York, it was announced recently by Alexander Calder. Jr., president.

Heading the division is A. B. Doran as general manager who previously was sales manager for the firm's chemical products.

Ellis O. Barnes is manager

Ellis O. Barnes, left, and A. B. Doran look over tanks and tower at tall oil distillation plant in Savannah, Ga.



of manufacturing and research for the division. Formerly he was superintendent of chemical products at the company's Sayannah plant.

According to Mr. Calder, establishment of the division was necessitated by the increasing importance of the manufacture and sale of chemical products in the firm's operation.

## ISM Schedule Announced

A full schedule of the conterence program which will be presented during the third annual Industrial & Building Sanitation Maintenance Show sponsored by the Institute of Sanitation Management Nov. 3-6 at the New York Trade Show Building was announced last month.

First on the program is a general session in the grand ball-room of the Hotel New Yorker on Monday, Nov. 3. Topics included in the two and a half hour morning meeting will be "Integration of Industrial Sanitation," "Fundamentals of Institutional Sanitation," and the "Sanitation Responsibility of Office Building Management," among others.

On Tuesday, Nov. 4, a technical session is scheduled at the Trade Show Building. A panel discussion will highlight this session entitled "How We Got Where We Are in Sanitation Maintenance."

Joint division sessions are set for Wednesday, Nov. 5, and Thursday, Nov. 6, at the Trade Show Building. Wednesday's gathering includes concurrent meetings of the food processing and mill bakery divisions and the buildings, institutions and industrial plants division. These divisions will meet again separately on Thursday.

Chairman of the entire program is J. Lloyd Barron, director of sanitation of National Biscuit Co., New York, and president of the institute.

According to Leonard Rogers, managing director of the show, the increase of space requests during the last month will make the show one of the largest of its type.

## **Oakite Names Lingle**

Eustace Lingle has been named vice-president in charge of industrial sales and education, Oak-



Eustace Lingle

ite Products, Inc., New York, announced last month.

With Oakite since 1929, Mr. Lingle was elected a director in 1939 and named vice-president in 1953. His new post adds responsibilities in sales, sales planning, and technical education.

## **New Cyanamid Surfactant**

"Aerosol TR" a new surface active agent of the sulfosuccinate group has just been introduced by American Cyanamid Co., New York. Sodium bis (tridecyl) sulfosuccinate is suggested for use in rust preventive compounds and as an improved processing aid for the polymerization of styrene. A technical bulletin giving properties and use information on the new compound has just become available from Cyanamid.

### Chaleyer Firm in New Mgt.

Perfumery Associates, Inc., New York, has taken over the management and operation of Ph. Chaleyer, Inc., New York essential oil firm. Offices and research and development facilities for both firms have been combined and the new enterprise is headed by Henry Retailliau as president, Thomas Miserendino as vice-president, and Robert Luthy as treasurer.

Mr. Retilliau was in the research department of the Monsanto Chemical Corp. vanillin plant in the 1930's before his connection with Perfumery Associates. Both Mr. Miserendino and Mr. Luthy have an extensive background in the perfumery industry. Mr. Luthy's brother Max is vice-president in charge of production for Givaudan-Delawanna, Inc., N. Y.

Ph. Chaleyer, Inc., was established by Philip Chaleyer who sold out his interest in the firm a few years ago. Pierre Coutin was president of the firm until his resignation last June.

## Carbide Shifts Three

In anticipation of a major marketing and development program on behalf of "Sevin" insecticide, Union Carbide Chemicals Co., New York, recently announced three transfers of "Crag" agricultural chemicals sales representatives.

J. R. Wheatley, with headquarters at Memphis, will call on pesticide formulators and experiment stations in the Mississippi Delta. Previously he had been in charge of "Crag" sales and market development activities in Florida, Georgia, and Alabama.

J. D. Mueller, formerly "Crag" representative in Memphis, will move to Yakima, Wash., to help establish "Sevin" in the northwest.

T. P. Finn, until now a member of the "Crag" agricultural chemicals staff at White Plains, N. Y., will transfer to Grand Rapids, Mich., to cover the North Central section. Mr. Finn, who has assisted in the development of "Sesone" herbicide and "Crag" fly repellent, recently has devoted his time to "Sevin" insecticide.

## Moffitt Succeeds Murray

Thomas E. Moffitt, president of Hooker Chemical Corp., Niagara Falls, N. Y., has been named



Thomas E. Moffitt

chief executive officer, succeeding R. Lindley Murray, chairman of the board it was announced following a directors' meeting Sept. 24. Mr. Murray has held the office since October, 1955, and Mr. Molfitt was elected president of the company Nov. 20, 1957.

Mr. Murray will continue as chairman, a position he has held since June, 1951, and plans to remain in active service until Dec. 1, 1959. With the shift in responsibilities he will be able to devote more time to his position as chairman of the recently formed research and development policy committee. The new central research laboratory on Grand Island is expected to be completed and in operation early in 1959.

Carbide expects to market "Sevin" in 1959 based on extensive field testing this year.





J. D. Mueller

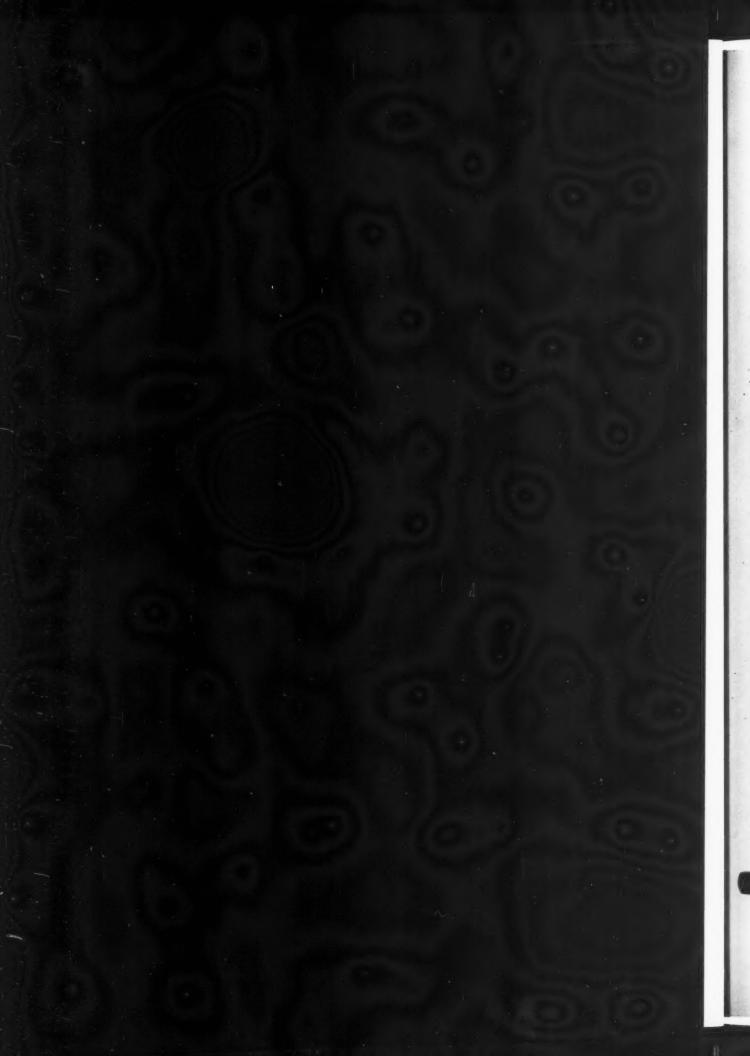


T. P. Finn



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1.	Analysis of Insecticides and Acaricides, by Gunther-Blinn. 706 pages, 72 illus., 50 tables. Complete treatise on sampling, isolation and determination, including residue method. Price: \$15.00.	□ 7	7. Modern Chemical Specialties, by Milton Lesser. 514 pages, 22 illus. Covers formulation, properties and uses of some fifty types of household, industrial and automotive chemical specialties. Price: \$7.25.
2.	Organic Solvents, completely revised second edition by Riddick and Toops. 560 pages including tables of physical properties of 254 solvents. Covers physical properties and methods of purification. Price: \$10.00.	_ 8	Handbook of Cosmetic Materials, by Greenberg-Lester. 467 pages. Covers the properties, uses and toxic and dermatological actions of over 1,000 materials selected in response to a questionnaire sent to cosmetic manufacturers. Includes a chapter on the skin by Howard W. Haggard, Director, Applied Physiology Laboratory, Yale University. Price:
3.	Surface Active Agents and Detergents, by Schwartz-Perry. Two volumes. Volume 1: 590 pages, 51 illus., 4 tables. Covers		\$13.50
	processes for synthesizing and manufacturing surface active agents, physical chemistry of surface active agents and practical applications of surface active agents. Price: \$13.50. Volume II: Approximately 860 pages, approximately 26 illus. and tables. Covers processing for synthesizing and manufacturing surfactants, special function surfactants and composi-	9	The Practice of Modern Perfumery, by Paul Jellinek, translated and revised by A. J. Krajkrman. 224 pages. Covers an introduction to perfumery; the perfumery of cosmetics; the perfumery of toilet soaps; perfumery, cosmetics and psychology. Price: \$5.50.
	tions, the physical and colloidal chemistry of surfactants and composi- tions, the physical and colloidal chemistry of surfactants and practical applications of surfactants. Price: \$19.50.	□ 10.	Cosmetics: Science and Technology, edited by Edward Sagarin. 1453 pages, 138 illus., 107 tables. Covers origin, development of cosmetic science and discusses individual
4.	Detergent Evaluation and Testing, by Jay C. Harris. 220 pages, 26 illus., 15 tables. A critical selection of methods and procedures for the testing of detergents. Price: \$4.50.		products such as hand creams, suntan preparations, skin lighteners, shaving soaps and creams, nail polishes and removers, deadorants, aerosol cosmetics and many other cosmetic and toiletry products. Price: \$27.50.
5.	Organic Insecticides, by R. L. Metcalf. 402 pages, 7 illus., 70 tables. Covers most organic insecticides, their chemistry and their mode of action. Price: \$10.00.	□ 11.	Industrial Oil and Fat Products, by Alton E. Bailey. 991 pages, 164 illus. 133 tables. Covers the nature of fats and oils, their composition and structure; raw materials; industrial utilization. Price: \$18.00.
6.	Advances in Pest Control Research, edited by R. L. Metcalf.		
	Volume 1: 522 pages, 11 illus., 13 tables. Covers the most recent advances in all phases of the applied science of pest control. Price \$12.50. (Volume II in preparation)	12.	Fatty Acids, by Klare S. Markley. 678 pages, 81 illus., 163 tables. The chemistry and physical properties of fats and waxes. Price: \$14.50.
	☐ 13. Soap Manufacture, by Davids 1: 537 pages, 66 illus., 1 the soap industry, theoret facture, raw materials of s raw materials. Price: \$13.5	l 8 table: ical prin oap man	s. Covers the history of sciples of soap manu- surfacture and the fatty

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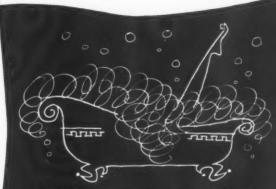
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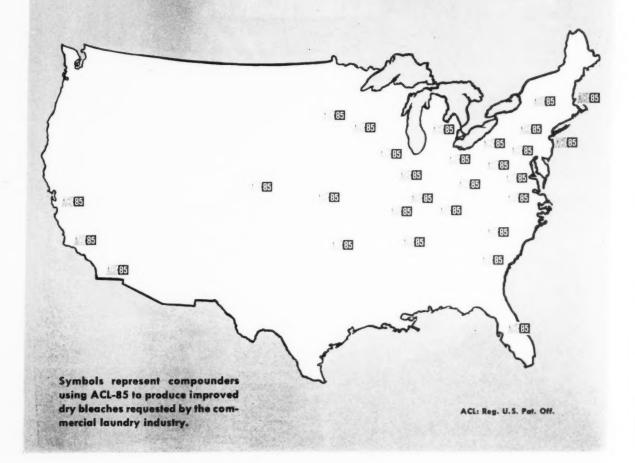
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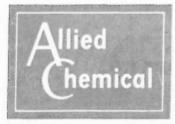
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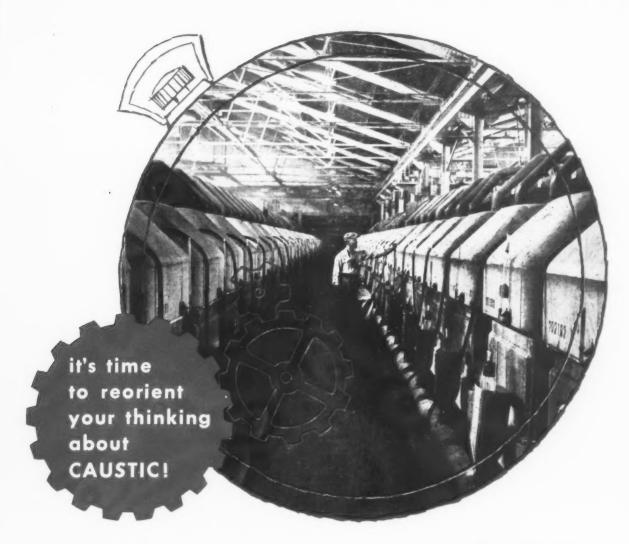
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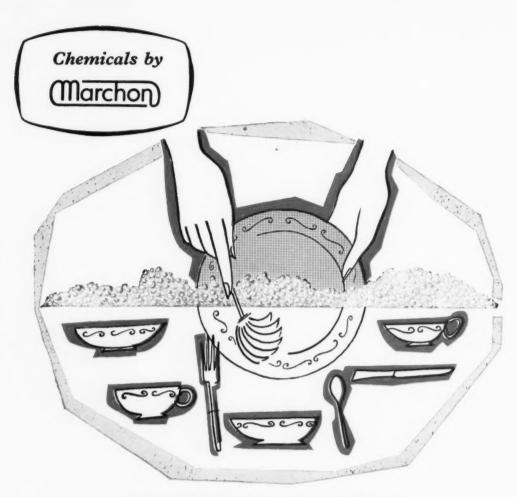
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# ...in brief

#### as the editor sees it . . .

NUCLEAR DETERGENTS . . . The revolution in detergent manufacturing continues. Latest development is a new nuclear process worked out by two Esso researchers and revealed in a paper delivered before the United Nations International Conference on Peaceful Uses of Atomic Energy last month in Geneva, Switzerland. The use of gamma rays from cobalt-60 to trigger a sulfoxidation reaction with liquid paraffins is the basis of the new process. The petroleum paraffins are less expensive than aromatic hydrocarbons as now used, the process is said to be less complex and to give better control of end products.

The new process is highly significant inasmuch as it may have a direct bearing on costs in the commercial production of detergents. Radiation requirements are said to be small as radiation is used only to start the reaction. Raw material costs are materially reduced. And there is no danger of product contamination as gamma rays do not make other materials radioactive. But the effect in outmoding present plant equipment might well be farreaching.

The research was done by Dr. James F. Black and Dr. Edmund F. Baxter, Jr. at the Esso Research Center, Linden N. J. Their paper as delivered in Geneva is published in full elsewhere in this issue.

TOILET SOAP . . . Toilet soap sales continue to mount upward in the face of declining sales of all other types of soap. Even though synthetic detergents have taken over something like three-quarters of the household "soap" market, toilet soap sales ignore the detergent boom. For the first half of 1958, toilet bar soap sales amounted to more than 255,000,000 pounds, according to the figures of the

Association of American Soap & Glycerine Producers. This is 9 per cent greater than the first half of 1957 and is at a rate over a half-billion pounds per year. This is three pounds per capita of toilet soap, a high rate of consumption in any land and probably the highest in American history.

If and when synthetic toilet bars are due to displace toilet soap on the American market is still a moot question. There are those close to soap production who maintain that it is inevitable. Others are not so sure. American soapers are ready and willing to sell the public anything it wants, be it soap or synthetic. As long as the sales curve continues upward as it has for the past decade, soapers probably don't care much which they sell. And we feel that the prospects for a continued sales uptrend are quite rosy.

SOAP DECLINE . . . With the marked exception of toilet soaps, as most everyone knows, the decline in soap sales in recent years has been precipitous. Half of all the soap sold in the United States during the first half of 1958 was toilet soap. Twenty-five years ago, toilet soap represented less than 10 per cent of the over-all soap market. At that time, soap sales totaled some four billion pounds. Today, sales are something over one billion pounds.

\* \* \* \* \*

While soap sales figures undoubtedly tell a graphic story, there is even a more poignant set of figures associated with the decline of soap. These are the number of companies who have quit its manufacture over the past ten years. According to the Association of Soap & Glycerine Producers, close to half of those firms who were producing soap in 1949 have since dropped its manufacture. This includes all bar soaps, soap washing powders and even liquid potash soaps.



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SOAP and CHEMICAL SPECIALTIES

But the rise in synthetic detergents has far overshadowed the decline in soap sales, both in tonnage and dollar-wise. In plant and sales, the "soap" industry is at least 25 per cent larger today than it was in 1933 when detergents made their debut. There is every indication that the lost soap tonnage is hardly missed by the industry today.

HAZARD LAWS . . . If the legislative prognosticators know what they are talking about,—and we have a hunch that they do,—most states which do not now have hazardous substances laws will pass or attempt to pass them in 1959. No secret exists that manufacturers of household chemical specialties, detergents and toilet articles will run for the cover of their trade associations for self protection, or they will be in for a lot of trouble. They tell us that 1959 will be no time to play lone wolf, but to band together to fight legislation which well could be ill-advised and ill-begotten.

For the chemical specialty and toilet goods people, restrictive legislation is not new. But for the soap industry, it is something of a novelty. Soap, always viewed as the safest of all safe household products, has been replaced, with the exception of toilet soap, by detergents. Where soap has been exempted from many laws, the inclination among legislators is not to exempt detergents because of their "chemical" nature.

From where we sit, the three groups, chemical specialties, toilet goods and cosmetics, and detergents, could be in a hot pot of legislative stew come January one. Maybe the lines should be drawn up now and some united plan of battle worked out.

AUTO POLISHES . . . To some extent, the manufacturers of auto polishes may be faced with a problem similar to that of the floor wax people when vinyl tile first came to market. The makers of vinyl tile boasted in their advertising that their product would retain its high gloss without waxing. Now with the new high gloss acrylic, melamine and like resin finishes for automobiles which many of the 1959 models will carry as the factory paint job, the

same claims of no-waxing-necessary are likely to be made.

In the case of vinyl tile, the floor wax manufacturers won their case hands down. Through the medium of the Chemical Specialties Manufacturers Association, they proved rather conclusively that waxing of vinyl tile is necessary to protect the finish. The manufacturers of vinyl tile apparently came to the same conclusion because most of them quit their no-waxing claims. For auto polishes, the problem might be somewhat more complicated if the car makers claim no-waxing-necessary.

Anticipating that the auto manufacturers who are known for somewhat extravagant advertising claims,—probably the understatement of the year,—may inadvertently damn waxes and all polishes, we feel the polish people should hop on to this matter now. If the procedure in the case of vinyl tile worked so well, why not follow it in the case of auto polishes?

BRAKE FLUID . . . Agitation to put low-boiling brake fluids off the market seems to be spreading from state to state. Already thirteen states have laws banning the sale of any brake fluid with a boiling point under 300 degrees F. Recently at a hearing before a committee of the New York State Legislature, the fact was brought out that one-third of the brake fluid now being sold in the state boiled at 230 F. or lower. Stringent brake fluid legislation will undoubtedly grow out of proposals made at this hearing. Eventually, it is felt, practically all states will adopt the 300 F. minimum boiling point.

There is no need to go into the public safety factors involved in low boiling brake fluids in present-day high-speed automobiles. The spotlight of public opinion is focused upon them. The Society of Automotive Engineers and the Chemical Specialties Manufacturers Association are firmly behind a high minimum boiling point. Why then will any manufacturer continue to package and sell the low boiling materials? Why wait until compliance is forced by state law? Why not meet and accept the new conditions now? They will be mandatory in a short time anyway.

# Specialties FROM HAARMANN & REIMER

AGRUMEN ALDEHYDE A chemical body which strengthens and refines not only the fresh slightly green note, but also the characteristic and somewhat bitter nuance of the Citrus Oils in compounds.

Also of great value in Pine compositions to strengthen and sweeten the Fir Needle note.



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PINE TSFN... faithful reproduction of delicate deep-woods pine needle scent.





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ROSE HV: Compounded rose base processed by extraction in presence of flowers other than Rose de Mai.

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#### as the reader sees it . . .

#### Five, Not 4 Brenn Gals

Editor:

After reading your statement on page 190 of the August issue of Soap & Chemical Specialties about my being the father of four girls. I immediately went home to check on the accuracy of that information. I very definitely counted five (5) girls, and my wife assures me that none was neighbors and all were bonafide Brenns. They all looked like her or me, so the evidence strongly suggests that you are wrong and that I am indeed the father of five daughters and no sons.

The idea of a son has never intrigued me. I understand that they wrestle, throw stones, and are destructive. And it gets worse as time passes. However I wish to congratulate the Krebs on their new son, and wonder how in the world they will be able to raise him with four older sisters around.

Earl Brenn.

Vice-president.

Huntington Laboratories, Inc. Huntington, Ind.

The offending "Tale Ends" item, to which Earl refers, dealt with the fact that the Krebs had recently added a boy to their roster of four girls. Evidently, we stopped counting when Earl and Ruth had their fourth girl and NO SON. We are sorry for any embarrassment we caused the Brenns by our mental aberration and ardently hope they can someday share our good fortune and have a boy. (See "Tale Ends" comment on Page 202). Ed.

#### PVP Article Not Cleared Editor:

The article "Is PVP in Hair Spray a Potential Hazard?", by Dr. Morris V. Shelanski, in Soap & Chemical Specialties, July, 1958, makes several references to the Food and Drug Administration in

relation to his appraisal of this matter.

We believe the article tends to create the impression that the Food and Drug Administration is convinced that the safety of the material has been unquestionably established.

You may wish to know that the article was not cleared with FDA, and the views expressed in it are those of the author and are not those of this Administration. It will be our purpose to follow closely the developments in this field as to the safety of this type of hair spray.

Wallace F. Janssen,

Director.

Division of Public Information Department of Health,

Education and Welfare,

Food and Drug Administration, Washington 25, D. C.

#### Dr. Shelanski's Reply

Editor:

Thank you for this opportunity of commenting on Mr. Janssen's letter.

I regret that my article in the July 1958 issue of *Soap and Chemical Specialties* was the cause of such concern to the Food and Drug Administration. After receiving a copy of Mr. Janssen's letter I reread my article several times and came to the conclusion that Mr. Janssen had attributed a different meaning to it than was actually inferred or implied.

First, there is no mention in the article that it was cleared with the Food and Drug Administration. The reason is simple—the article was not submitted for such clearance. On the other hand, I have never made a practice of mentioning that an article has not been submitted for clearance by the Food and Drug Administration.

Secondly, after many years of dealing with the Food and Drug Administration, I am not so naive as to go out on a limb and give the impression that the Food and Drug Administration is convinced that the safety of any material, let alone PVP, is unquestionably established. Even the air we breathe and live in can be lethal if administered in large enough quantities intravenously; even the water we drink. bathe in, and use as a universal solvent for all sorts of parenteral injections can be lethal if it gains access in large enough quantities into the lungs.

In referring to the Food and (Turn to Page 188)

H. W. Hamilton, secretary of the Chemical Specialties Manufacturers Assn., and Mrs. Hamilton aboard the S.S. Independence, Sept. 26, at the beginning of a 20-day cruise to Europe. En route the American Export liner will stop at Algerciras and Barcelona, Spain; and Naples and Genoa, Italy. The ship retraces its course for an expected arrival date in New York of Oct. 17.



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A neutral nonionic synthetic detergent of the 100% alkyl-phenol ethylene oxide condensate type. A light-colored

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ES PASTE. A specially developed synthetic detergent whose active ingredient is mainly modified alkyl sulphate. Offers exceptional efficiency and

stability over a wide range of operating conditions. Wetting, penetrating, sudsing, dispersing and emulsi-fying properties make it excellent for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion

AB GRANULES. A neutral syn-

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WA PASTE. A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium alkyl sulphate. Excellent sudsing, wetting, dis-

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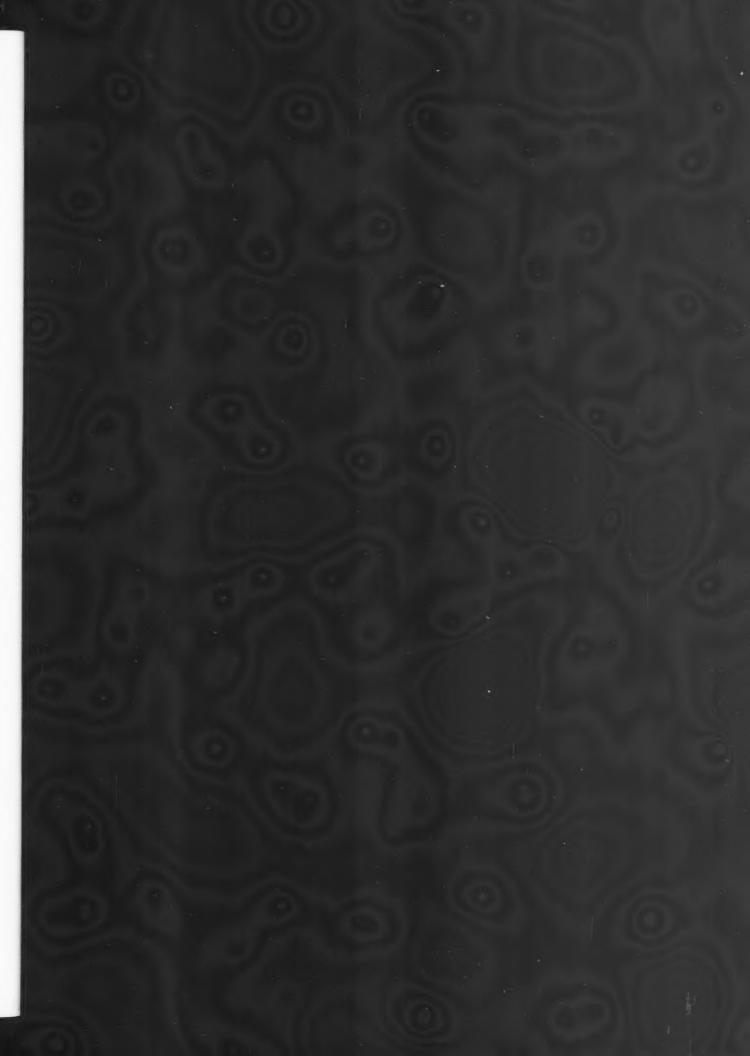
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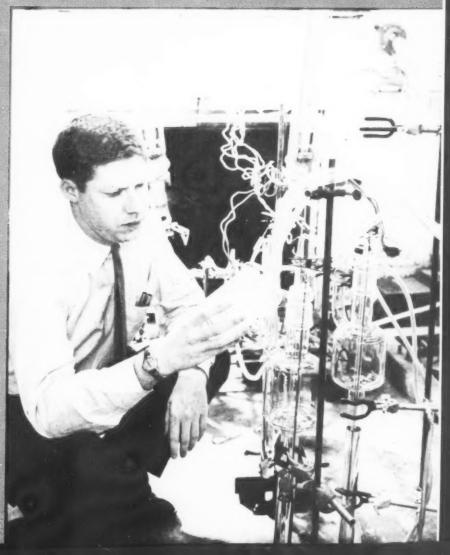
# Detergents... Cleansers... Soans...

NUCLEAR DETERGENTS NEXT? Dr. Edmund F. Baxter. Jr., Esso Research and Engineering Co., Linden, N. J., assembles experimental equipment to produce detergents from petroleum paraffins. See article by him on page 43.

Aerosols **Detergents** Dishwashing compounds Floor scrubs Glycerine Hand cleaners Laundry soaps Liquid soaps **Metal cleaners** Potash soaps Scouring cleansers Shampoos **Shave products** Soap powders Starch Steam cleaners Medicinal soaps **Textile detergents Toiletries** 

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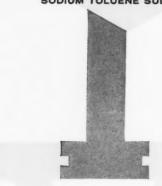
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Looking through a three-foot thick leaded glass window, camera catches author Baxter setting up experiment in which atomic radiation produces surface active agents. When all is ready Dr. Baxter will leave heavily shielded room. Claw-like mechanical hands, operated by remote control, then remove

the radioactive source from its safety well and place it near test apparatus. Gamma rays given off by radioactive source (cobalt 60) cause chemical reactions which result in experimental quantities of new synthetic detergents. Experiment took place in lab of Esso Research and Engineering Co.

# Detergents by Nuclear Process

# Use of gamma rays to trigger sulfoxidation reaction with most of the liquid paraffins

HIS paper presents data which show that gamma radiation is an outstandingly effective method for initiating sulfoxidation reactions in which SO2 and O2 react with hydrocarbons to form sulfonic acids. These studies have proved to be of theoretical interest because they have (a) shown for the first time that long chain lengths (up to 1000) can be obtained in this reaction, (b) demonstrated that certain types of hydrocarbons are efficient sulfoxidation inhibitors, (c) revealed steric effects which give some information on the struc-

By James F. Black and Edmund F. Baxter, Jr.\*

Products Research Division
Esso Research and Engineering Co.
Linden, N. J.

ture of the chain carrying agents and (d) given evidence for the existence of an unusual type of chain reaction with delayed branching which is non-explosive due to inherent self quenching characteristics. From a practical standpoint, these studies indicate that gamma initiated sulfoxidation could become an attractive method for manufacturing new classes of oil or water soluble detergents. Radiation requirements would be small providing the inhibitors described in this report were carefully excluded from the feed stocks.

Previous investigators of the sulfoxidation reaction have used ultravolet light, anhydrides or peroxides as initiators. This reaction was first reported by German workers in 1940<sup>(1)</sup>. A review of work published prior to 1956 has recently appeared<sup>(2)</sup>. The existence of a

<sup>\*</sup>Submitted to the United Nations International Conference on Peaceful Uses of Atomic Energy, Geneva, Switzerland, Sept. 8, 1958.

chain reaction involving the formation of persulfonic acid has been postulated by Orthner<sup>(3)</sup> and Graf<sup>(4)</sup>. The former reported chain lengths of 7-8 in the photochemical sulfoxidation of a mixture of C<sup>10</sup>-C<sup>12</sup> hydrocarbons. More recently, Topchiev<sup>(5)</sup> has studied the photochemical sulfoxidation of n-heptane. He found evidence for a nonchain reaction which passes through a sulfinic acid intermediate.

The present study clearly shows that gamma initiated sulfoxidation is a chain reaction initiated by the action of gamma rays on saturated hydrocarbons to form free radicals. There is no direct means by which ultraviolet light can effect a similar initiation step. Although ultraviolet light and gamma rays must differ in the manner in which they initiate the sulfoxidation reaction, we feel that chain propagation may be similar once free radicals are formed in the system. This assumption can be applied to account for some of the apparent discrepancies in the conclusions of Russian and German investigators of the photochemical sulfoxidation reaction.

#### Experimental

The sulfoxidation reaction was carried out in glass reactors equipped with a fritted glass gas inlet tube and a thermocouple well. Each reactor was immersed in a water bath to maintain constant temperature. With the more volatile hydrocarbons the outlet tube of the reactor was equipped with a reflux condenser. The rates of introduction of sulfur dioxide and oxygen, were 7.2 liters/hr. and 3.0 liters/hr. respectively. Gases were passed through anhydrous calcium sulfate prior to metering and introduction into the reactors. In every experiment 200 cc. of liquid hydrocarbon was used. Before irradiation was started the system was allowed to come to equilibrium at the temperature and flow conditions to be employed. Throughout all experiments the reacting gases were supplied at a rate appreciably

greater than that at which they were being consumed.

With one exception the hydrocarbons used in these studies were research grade chemicals of at least 99 mole per cent purity and these were further purified by silica gel percolation. The exception was n-cetane (hexadecane) of ASTM primary reference fuel quality. The gases employed were C.P. grade.

All irradiations were performed in the Esso Research Center Radiation Laboratory<sup>(6)</sup> using a source which contained approximately 2500 curies of Cobalt 60. Dosimetry was based on the Fricke dosimeter<sup>(7)</sup>.

Yields of sulfonic acid for the cetane runs were obtained gravimetrically by ASTM Procedure D-855. Formation of the sulfonate group was confirmed by infrared analysis. With the low molecular weight hydrocarbons which produce water soluble sulfonic acids, total acidity was determined by electro-metric titration with base. The sulfuric acid formed was determined separately by Ba++ precipitation; and the sulfonic acid calculated by difference.

#### Results and Discussion

Pure normal paraffins ranging from hexane to hexadecane in molecular weight can be sulfoxidized in good yield under the influence of gamma radiation. A detailed study of various pure C<sub>6</sub> compounds has shown that certain types of hydrocarbons can act as



Dr. James F. Black, Co-author

inhibitors for the sulfoxidation reaction. A kinetic analysis of this reaction is complicated by the observation that in some cases the reaction will continue in the absence of radiation provided a certain maximum dose has been absorbed. The reaction exhibits a negative temperature coefficient and proceeds more slowly in the presence of water.

Data summarized in Table I show that strikingly high G values (3000-6000) are obtained with normal paraffins in the C<sub>6</sub>-C<sub>9</sub> range. A cycloparaffin (cyclohexane) gave a still higher G value, 6500.

Schuler has reported<sup>(8)</sup> G values for the free radicals produced by the radiolysis of pure hydrocarbons. Division of the G values listed in Table I for sulfonic acid production by his G values for the corresponding hydrocarbon indicates that chain lengths as high as 1000 occur in the sulfoxidation reaction.

#### Table I. $\gamma$ -Sulfoxidation of Paraffins (Room Temperature; Dose Rate $\pm$ 0.09 MR/Hr.)

	% Conv./MR(a)	G(*)
n-Hexane	44.9	4880
n-Heptane	38.0	3780
n-Octane	65.4	5630
n-Nonane	37.1	2920
n-Cetane (Hexadecane)	27.4	1260
Cyclohexane	57.1	6530

- (a) The conversion of hydrocarbons to sulfonic acid per megarep of radiation.
- (b) The number of molecules of sulfonic acid produced per 100 e.v. of absorbed radiation.

Studies directed toward an elucidation of the mechanism of the sulfoxidation reaction show that hydrocarbons other than the normal paraffins do not give long chain lengths in this reaction. These experiments were conducted on a group of pure C6 hydrocarbons, chosen to provide information on the behavior of various types of carbon-hydrogen bonds in this reaction. The data are presented in Table II. Particularly striking is the lack of reactivity of the dimethylbutanes since these compounds have been shown by Schuler to produce more free radicals than hexane when irradi-

Further studies of the unreactive compounds listed in Table II show that they can influence the sulfoxidation of normal paraffins. Two of these hydrocarbons, 2,3 dimethylbutane and hexene-1, act as inhibitors. Data presented in Table II show that 10 per cent of either of these compounds can reduce the yields from hexane sulfoxidation by a factor of about 100.

These data also show that 2.2 dimethylbutane does not act as a sulfoxidation inhibitor but appears to augment the conversion to some extent. Its lack of reactivity in the pure state is apparently due to steric hindrance. This result is surprising since a study of molecular models suggests that SO. should easily add to the -CH -group in this compound. Since steric hindrance does occur, an increase in the O-S-O bond angle must be necessary for the formation of one of the reaction intermediates. Our work also indicates that the -CH3 groups cannot be attacked in the sulfoxidation process. This contradicts Asinger's results(2).

Explanations can be advanced for the inhibitory properties of the tertiary hydrocarbon (2,3 dimethylbutane) and the olefin. It can be suggested, for example, that the inhibition with the 2,3 dimethylbutane is caused

Table II.  $\gamma$ -Sulfoxidation of  $C_0$  Compounds (Room Temperature; Dose Rate  $\equiv 0.09$  MR/Hr.)

	% Conv./MR.	RSOH	Free Radicals (8)
n-Hexane	44.8	4880	7.6
2,2 dimethylbutane	0.14	16.4	8.1
2,3 dimethylbutane	0.17	20.4	8.5
Hexene-1	0.32	39.1	_

by peroxide formation since tertiary hydrocarbons are known to peroxidize readily. Experimental data on the radiation induced oxidation of 2,3 dimethylbutane under the same conditions at which sulfoxidation was attempted show that low concentrations of peroxide are produced (approximately 0.04 gm. of peroxide oxygen/liter). It is not certain whether these results are sufficient to account for the observed inhibition, particularly when the tertiary hydrocarbon is present in low concentrations.

An alternative explanation can be based upon the known stability of tertiary hydrocarbon radicals and the ease with which other radicals can abstract tertiary hydrogens(9). A chain reaction which is initiated in a hydrocarbon mixture containing tertiary hydrogen atoms can easily lead to the formation of a tertiary hydrocarbon free radical by hydrogen abstraction. The radical could be too stable to propagate the chain reaction. It can terminate other chains, however, by radical-radical combination. The inhibition with the olefin could be explained in the same manner through the formation of relatively stable allyl

A preliminary investigation with cetane showed that once the

sulfoxidation reaction had proceeded for a substantial time in the presence of radiation, the gamma ray source could be removed and the reaction would continue at the same rate. For this effect to be observed a total dose of at least 0.14 megarep (at 0.09 MR/Hr.) must be delivered to the system. A more detailed examination of compounds in the C<sub>6</sub>-C<sub>9</sub> range demonstrates that under the conditions we employ this post-irradiation reaction can be obtained with n-hexane, n-heptane, and n-nonane, but it does not appear to occur with cyclohexane and n-octane. This can be seen by the data in Table IV. The differences in the behavior of these compounds with respect to the post-irradiation reaction may be related to SO2 solubility. From miscibility data(10) extrapolated to lower concentrations of sulfur dioxide relative to the hydrocarbon, it appears that n-hexane, nheptane, and n-nonane are better solvents for sulfur dioxide than are cyclohexane and n-octane. This observation requires confirmation by precise gas solubility determina-

In the photochemical sulfoxidation of n-heptane, cyclohexane and methylcyclohexane, Graf<sup>(4)</sup> has reported that the reaction can

Table III. Inhibition of γ-sulfoxidation (Room Temperature: Dose Rate = 0.09 MR/hr.)

	% Conv./Mr	G
n-Hexane	44.9	4880
n-Hexane + 10% 2,3 dimethylbutane	0.44	53.5
n-Hexane + 10% hexene-1	0.26	31.6
n-Hexane + 10% 2,2 dimethylbutane	51.1	5560

Table IV.  $\gamma$  Sulfoxidation after Termination of Radiation (Room Temperature; Dose Rate = 0.09 MR/Hr.)

% Conservation	<b>A</b> (a)	<b>B</b> (b)	C(e)
Hours Irradiation	2	2	2
Hours Reaction	2	3	4
n-Hexane	0.44	2.8	9.3
n-Heptane	7.0	10.5	15.2
n-Octane	12.0	16.8	10.8
n-Nonane	6.8	11.9	14.0
Cyclohexane	10.3	11.3	10.8

- (a) Two hours irradiation, gas flow immediately terminated.
- (b) Two hours irradiation, gas flow continued additional hour.
- (c) Two hours irradiation, gas flow continued additional two hours.

continue after the light source has been removed. He has stated, however, that these were the only hydrocarbons which would exhibit this behavior. Our data show that this effect can be achieved with other hydrocarbons, namely nhexane, n-nonane and cetane. Under these conditions, however, cyclohexane does not exhibit this effect. The difference between Graf's observations and the present study may be explainable in the light of our observation that with cetane a critical amount of conversion in the presence of radiation is required before the reaction can become self-sustaining. The amount of radiation required to achieve a self-sustaining reaction may be sensitive to conditions such as surface-to-volume ratio or the presence of trace impurities which could destroy free radicals in the system.

The evidence which has been presented for the simultaneous existence of both a radiation initiated and a self-sustaining sulfoxidation reaction indicates that rate studies of this process will be extremely complicated. It has been established, however, that an increase in reaction temperature serves to decrease the yields. This is true both in the presence and in the absence of water. Data are presented in Table V. Presumably, the higher temperature decreases the solubility of sulfur dioxide, thereby reducing the rate of sulfonate formation.

The presence of water in the reaction feed also decreases yields both at room temperatures and at elevated temperatures. This effect can be seen in Table VI. Once a liquid water phase is present, further additions of water have been found to have no effect.

#### Sulfoxidation Mechanism

A satisfactory reaction mechanism for the radiation-initiated sulfoxidation must account for the following observations:

- 1. High G values and long chain lengths.
- 2. The ability of the reaction to continue in the absence of new initiators.
- 3. The formation of sulfuric acid as well as sulfonic acid. (We have

found the ratio of the two products to be about 1:3.)

 The decrease in yield caused by the addition of water.

We feel that these observations can be explained by a simplified form of the mechanism which was proposed by Graf<sup>(4)</sup> for the photochemical sulfoxidation reaction. In the gamma ray initiated process it appears likely that initiation occurs predominantly in the condensed phase since this is where the radiant energy is being absorbed. The initial step can therefore be written as:

 $RH \xrightarrow{\gamma} R\cdot + H\cdot \quad (1)$  The  $H\cdot$  atom could react through hydrogen abstraction to form another  $R\cdot$  radical or it could experience other reactions. The fate of the  $H\cdot$  atom should not be important to the mechanism, however, since its steady state concentration should be lower than that of  $R\cdot$  which is being continuously regenerated in a chain reaction which proceeds by these steps:

$$\begin{array}{cccc} R \cdot + SO_2 & \longrightarrow & RSO_2 \cdot & (2) \\ RSO_2 \cdot + O_2 & \longrightarrow & & \\ RSO_2O_2 \cdot & & (3) \\ RSO_2O_2 \cdot + RH & \longrightarrow & \\ RSO_2O_2H + R \cdot & (4) \end{array}$$

The persulfonic acid decomposes into two radicals which will react to form sulfonic acid and water.

$$RSO_{2}O_{2}H \longrightarrow RSO_{3} \cdot + OH \cdot \qquad (5)$$

$$RSO_{3} \cdot + RH \longrightarrow RSO_{3} \cdot + RH \longrightarrow (6)$$

$$OH \cdot + RH \longrightarrow H_{2}O + R \cdot \qquad (7)$$

$$(Turn to Page 104)$$

Table V. Temperature Dependence of  $\gamma$  Sulfoxidation

(Dose Rate = 0.3 MR/Hr.)

	Temp., °F.	% Conv./MR	G
	81-6	4.6	211
Cetane + H2O liq.	133-7	1.3	59.2
	94-6	18.2	833
Cetane	128-32	3.2	147

Table VI. Influence of Water on  $\gamma$  Sulfoxidation (Dose Rate  $\equiv$  0.3 MR/Hr.)

	Wt. % H <sub>2</sub> O	% Conv. MR	G
Cetane at 850° F.	7	4.6	211
	0	18.2	833
Cetane at 130° F	7	1.3	59.2
	0	3.2	147



NOVEL SOAP USE: These two soap "silver dollars" are typical of the original and unusual ways Hewitt Soap Co. em-

ploys soap in its mailing pieces to promote its line of private label soaps. The Latin may be faulty but idea is sound.

# Soap as a Sales Tool

DENTIFICATION of a firm and its products in an era of highly individualized competition is no easy task. However, Hewitt Soap Co., Dayton, O., has achieved a good deal of success in identifying itself with the industries it seeks to reach. It has done so with a series of clever, original and interesting promotional ideas—all using soap.

Hewitt, a private brand soap manufacturer with plant and headquarters in Dayton, and an active sales office in New York, is part of the Procter & Gamble organization. Hewitt's promotional pieces, always soap novelties, go to its present customers, prospects and some business acquaintances. That these mailings are not merely passed by is indicated by the more than 60 responses received by Hewitt for each monthly mailing of 2,000 pieces.

SUMMER: 1958 summer promotion featured soap (what else?) straw hat, complete with hat band and box (both paper).



Responses are good, according to Leonard Schultes, eastern sales manager of Hewitt. People continually refer to the items they like best, he says. So far the leading favorites are the Hallowe'en package, which included three pumpkins with the inscription: "We've come to haunt you. (signed) Hewitt Soap Co.," and the St. Valentine's Day pack decorated with heart shaped doilies and bearing the greeting, "Be our Valentine." Mr. Schultes recalls one idea which caused the company some extra research work. A promotion involving two cakes of soap in the shape of coins was worked out with an appropriate Latin inscription. Sidney Friend, secretary of van Ameringen-Haeb-



HAPPY NEW YEAR: Hewitt got 1958 off to a foaming start with a soap tome in monogrammed case. Inscription on soap reads "Dec. 31, 1957, Year In Year Out Best Wishes from Hewitt, Jan. 1, 1958."

ler, Inc., New York perfuming materials firm, and a part-time Latin scholar, noted an error in the Latin usage and called it to Hewitt's attention. After much research and discussion at Hewitt it was found that Mr. Friend was correct and the company in error.

But all of these promotions do more than merely attract attention. Hewitt finds them real business builders. Because of the many markets that the firm wants to reach it finds that promotional mailing brings better results than straight advertising. Hewitt works mainly with other soap manufacturers, department stores and specialty houses. To reach all these people it would have to advertise through many diverse media. By using promotional mailing pieces all efforts are concentrated on one medium and better results are obtained.

One of Hewitt's most recent items for Spring is a miniature straw hat made of soap and packaged in a tiny hat box.

Responsible for most of these ideas is Hewitt's stylist Miss Ruth Tremain. But many ideas are worked out at a "brain-storming" session of Hewitt's top executives.

Although in the past four promotional pieces were sent out each year, a recent decision by the firm has limited it to two mailings per year. Not that Hewitt is running out of ideas for its promotions, but it is felt a better job can be done and better results obtained by devoting efforts to the two promotions.

What of the growing importance of synthetic detergents? Hewitt feels they are having their effect by interfering with the sales of regular soap. First synthetics affected the soap flake market, but this year, with the introduction of new synthetic brands, the sales of soap bars have also been affected.

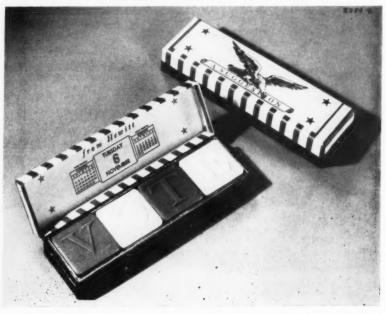
The much talked-of recession has also displaced sales of specialty soaps. Not that people stop taking baths to economize, but they do stop buying the higher priced specialty and novelty soaps.

Hewitt is in the midst of preparing two types of detergent cakes and now is marketing them. One type has a pH slightly lower than normal soap and gives better performance than soap. The other has a pH factor of about 7.3-7.5, which the company thinks will be successful, because it can be used by people with allergies to normal soaps.

As Hewitt sees it, perfume, color, and packaging are three trends to be watched in soap manufacture. There is a tendency toward the use of more and heavier perfuming in soaps especially in the specialty field. Whereas specialty soaps had relied on other factors besides color to make them attractive, color in the specialty soap field now plays a larger role. The introduction of a variety of colors in popular soap brands has forced specialty soap manufacturers to abandon the standard tans and other bland colors that have characterized their products for such a long time. More attention is also being paid to the packaging of specialty soaps. Better quality packaging which makes the product attractive and suitable as a gift is being widely adopted by the industry.

(Turn to Page 189)

AWARD WINNER: To help get out the vote for the 1956 fall elections Hewitt came up with this idea. Four cakes of soap in red, white and blue each carry a letter to spell out the word "vote." For its efforts Hewitt received a special award from the American Heritage Foundation: "In appreciation of outstanding public service in the national non-partisan Register, Inform Yourself and Vote Program for 1956." Patriotic color scheme and calendar with Election Day date appears on box cover.



## New Tall Oil Fraction...

#### New tall oil fraction, similar in physical and chemical properties to lanolin, used as soap additive, rust preventive, emulsifier

#### By M. G. Bestul, I. A. Stine and J. C. McManus\*,

ANY challenging studies of the composition and application of the various components of tall oil, in addition to the common rosin and fatty acids, have been undertaken by research groups. The importance of these studies can be shown in the tremendous growth in our industry over the past 10 years. In 1947, the total production of whole tall oil from skimmings amounted to 200 million pounds. By 1955, total production had jumped to 550 million pounds annually or an increase of 175 per cent. Based on recent sulfate pine pulp expansion, a production of a billion pounds of tall oil in 1958 is possible.

For many years tall oil producers have been up-grading the quality of their products by refining to separate the rosin acids and fatty acids into pure fractions. In the process of fractionally distilling whole tall oil, a high boiling fraction is obtained in an amount equal to approximately 15-20 per cent of the crude tall oil. This fraction alone is available at the rate of approximately 150 million pounds per year based on an estimated refinery capacity of 750 million pounds in 1958.

Some years ago, one of our chemists studying the saponification reaction of this fraction found that, under normal procedures, it was impossible to saponify it com-

pletely. Another chemist found that under certain conditions a soft, waxy material separated from a soap solution of the fraction. Upon examination of this oily material it was found to have many properties similar to lanolin or wool grease. This product was essentially a fatty ester of high molecular weight alcohols and plant sterols, whereas wool grease is a fatty acid ester of high molecular weight alcohols and animal sterols. This led to the eventual patented commercial process for the production of the lanolin-type\* material from tall oil (1).

\*Sold commercially under the tradename "Lanofat", by the Industrial Chemical Sales Division of West Virginia Pulp and Paper Co. West Virginia Pulp and Paper Co. Charleston Research Laboratory Charleston, S. C.

These esters are not present, except to a small degree, in tall oil skimmings. In the processing of tall oil skimmings to crude tall oil by acidification, some esterification will occur during the flash drying process where the temperature may be in the neighborhood of 250°F. The main point of ester formation occurs during the distillation of tall oil. Since these esters are of high molecular weight they will be concentrated in the high boiling tall oil fraction and may be recovered from these fractions in yields approximating six per cent of the whole tall oil. This would mean a potential availability of up to 45 million pounds per vear. The average availability of

Table 1. Properties of Lanolin Type Material

from Ta	Il Oil and Wool Gre	ease	
	Typical Range		
Chemical Data	Lanolin-Type	Wool Grease	
Acid number	<2	0.4-2.0	
Saponification number	60-90	97	
Iodine number, Wijs		19.8-30	
modified 300% excess	120-140		
Ash	0.5-1.0	0.11-0.40	
Fatty acids, as oleic, free	0.5.3.0	0.1	
combined	47	50	
Unsaponifiable mater, %	53	50	
Sterols, free, %	trace	3.0-4.5	
combined, %	25	15.3	
Free sulfur (copper strip)	negative	_	
Rosin acids, %	trace	-	
Physical Data			
Specific gravity, 15.5°C	0.95-0.98	0.944-0.947	
Pour point, °F	90-105	_	
Melting point, °F	_	98-100	
Viscosity, 210°F, SSU	165-190	-	
Flash point, °F	540.	-	
Color	Dark	Tan-Dark	
Moisture %	< 0.2	< 0.1	

<sup>\*</sup>Paper presented during 44th midyear meeting, Chemical Specialties Manufacturers Association, Cincinnati, May 21, 1958.

wool grease in the past 20 years has been in the neighborhood of 15 million pounds per year (2).

In Table 1, the properties of the lanolin type material from tall oil are shown and compared with the available properties of wool grease (2).

As can be seen from Table 1, the two materials have similar properties. When the lanolin-type material is hydrolyzed we find that it contains 47 per cent fatty acids and 53 per cent sterols and higher alcohols. Since the lanolin type material has an iodine value of 110-115, it contains a mixture of oleic and linoleic acids in the same ratio common to tall oil fatty acids. The non-acid fraction contains a mixture of 50 per cent sterols (primarily beta sitosterol) 33 per cent high molecular weight alcohols

(primarily lignoceryl) and 17 per cent unknown. On the other hand, wool grease or lanolin has an iodine value of 20-30, its acid portion being a complex mixture of saturated acids having carbon chain lengths from 10 and 28, and their isomers. The non-acid fraction contains a mixture of 35-40 per cent sterols (primarily cholelesterol), 25-30 per cent triterpenoid sterols (primarily lanosterol), 10-15 per cent aliphatic monohydric alcohols, five per cent aliphatic diols and 15-25 per cent unidentified compounds (3).

Generally we find that the lanolin-type product is soluble in non-polar solvents and insoluble in polar solvents. It is, therefore, soluble in hydrocarbons, ethers, halogenated, and nitro compounds. It is slightly soluble in heterocyclic

compounds, amines and ketones. It is insoluble in alcohols and aqueous systems. Table 2 gives the general solubility characteristics of the lanolin type materials as compared with wool grease (3).

#### Recovery Process

The recovery of the lanolin type material involves a rather simple arrangement of equipment. A simple flow diagram of our patented process shown in Figure I consists, briefly, of reaching the high boiling tall oil fraction with an amount of sodium hydroxide solution which is appreciably in excess over that required to neutralize the free fatty acids and rosin acids present. The reaction and decantation is carried out at a temperature near boiling. After the reaction is completed, the mixture is allowed to settle out on top as oil. The top layer is then decanted to a receiver which acts as a surge tank for a centrifuge where moisture and other extraneous matter are removed. If desired, the lanolin type material can be separated by centrifuging the total mixture without the settling of decantation.

The ratio of sodium hydroxide to water to the tall oil fraction has a marked effect on product yield and ease of separation. Under normal conditions a yield of 20-30 per cent of the high boiling fraction may be anticipated. The product is dark in color, but light color products have been obtained through subsequent treatments.

By re-acidification of the soap remaining after the separation of the lanolin type material a product is obtained which has properties similar to a crude tall oil and is suitable for many applications in which whole tall oil is used and where color is not an important factor.

Applications

The known and potential uses of the lanolin like tall oil fraction product are listed below with a brief description of each.

1. Soap additives: The tall

		Various Solvents	
Solvents	Solubility		Solubility
Aqueous		Amines	
Distilled water	I	Triethanolamine	SS
Dilute sulfuric acid	1	Pyridine	S
5% sodium hydroxide	I	Aniline	PS
5% sodium carbonate	I	Morpholine	PS
5% sodium bicarbonate	I		
5% ammonium hydroxide	I		
Hydrocarbons		Heterocyclic	
Petroleum ether	S	1-4. Dioxane	S
Kerosene	S	Dimethyl dioxane	SS
Toluene	S	Dimethyl sulfolane	SS
Alpha pinene	S	Furfural	SS
Benzene	S	Tetrahydro furfural	1
Alcohols		Ketones	
Methyl	I	Acetone	PS
Ethyl	I	Diacetone	SS
Hexyl	I	Cyclohexanone	S
Phenol	I	Ether	
Ethylene glycol	I	Ethyl ether	S
Diethylene glycol	I	Sulfur Compound	
Methyl cellosolve	1	Carbon disulfide	S
Halogenated		Two Component Mixtures	
O-dichloro benzene	S	Acetone-water (9:1)	1
Carbon tetrachloride	S	Two Component Mixtures	
Ethylene chlorohydrin	PS	Methyl alcohol-acetone (1:1	) I

S

S

S

5

S

SS

S

55

Legend

S-soluble

Methyl alcohol-nitro methane

Methyl alcohol-Benzene (1:1)

I\_insoluble (no color in solvent)

SS-slightly soluble (solvent colored

PS=partially soluble (dark colored

by solute)

solved matter)

solvent with apprecia-

ble portions of undis-

Table 2. Solubility of Lanolin Type Material

Chloroform

Esters

Epichlorohydrin Trichloroethylene

Ethyl acetate Amyl acetate

Nitro Compounds

Nitromethane

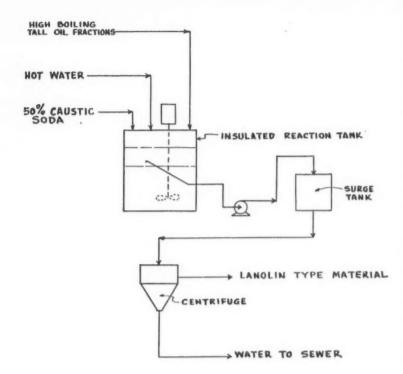
Nitrobenzene

Triethyl phosphate

Dimethyl phthalate

1-chloro-1-nitro propane

#### FIG. I MANUFACTURE OF LANOLIN TYPE MATERIAL



oil fraction should offer excellent possibilities as additive to various hand and skin creams. It should be particularly good as a replacement for lanolin in mechanics' hand soaps. Since the fraction is a fatty acid sterol ester the usual test for lanolin which involves a colorimetric test for sterols would be effective in likewise determining the content of "Lanofat" in such soaps.

2 Rust preventives: The material should be very suitable for use as a temporary coating for the prevention of rust. It is non-drying like wool grease, and since its physical properties resemble wool grease the material may be used without further modification.

3. Emulsions: Since the tall oil fraction is an oil soluble emulsifying agent, its addition to a fat, oil or grease permits water to be readily incorporated as a water-in-oil emulsion. It is particularly desirable as an additive in metal working oils to give stable emulsions. This is the largest

single use for wool grease.

4. Caulking compounds:

Cholesterol

The lanolin type product offers unique qualities in caulking compounds particularly for aluminum. The product appears to have an affinity for the metal which gives the desirable adhesive qualities of the caulking compound to aluminum. In addition the drying qualities are such that the caulking compound will become hard on the surface, but will not become brittle.

5. Pharmaceutical: The tall oil fraction is an excellent raw material for the production of betasitosterol and has been used in tankcar quantities. Studies by medical researchers indicate that beta-sitosterol would readily reduce the cholesterol content of the blood thereby acting to prevent arteriosclerosis. Although betasitosterol and cholesterol are quite similar in structure as can be seen in Figure 2, the beta-sitosterol when taken orally apparently forms a complex with cholesterol. Due to the relatively high sterol content of the tall oil fraction, we developed a simple one step pro-

(Turn to Page 56)

FIGURE 2 STRUCTURE OF VARIOUS STEROLS

Ergosterol

# Soap Companies and the Law

By Leo T. Parker,

Attorney at Law, Cincinnati, O.

ELDOM have the higher courts in different localities rendered so many outstanding decisions affecting manufacturers, distributors, buyers and sellers of soap and detergent products as during the past few months. I have reviewed these numerous late and leading higher court decisions on which to base this article. The court decisions cited should assist readers and their lawyers to win unavoidable suits. Also, knowledge of the cause and outcome of these new higher court decisions may enable readers to avoid expensive law suits.

#### **Must Prove Ingredient**

Recently the writer attended a convention of manufacturers of soap and like products. A convention member asked this interesting legal question: "If a user of a soap product sues the manufacturer for damages alleging that the product contains poisonous ingredients, can the user recover damages without proving that ingredient caused his alleged injury?"

According to a late higher court decision the answer is in the negative unless the facts stated justify the application of the res ipsa loquitur rule. In other words, unless negligence of the manufacturer is presumed the injured user must prove what ingredient or substance caused the injury.

For illustration, in the case of Reed v. Swift and Company, 113 Fed. Supp. 102, a woman named Reed sued Swift and Co. for heavy damages. She testified that she used a substance known as "Boxcar Laundry Powder," and that such substance contained poi-

sonous and deleterious substances the exact nature of which she was unable to state. She testified that use of the powder severely injured her skin. The Federal Court refused to award Reed any damages saving:

"Since it is not a res ipsa loquitur case, then the plaintiff (Reed) is bound by the rule which requires a statement of facts and not mere conclusions. . . . The plaintiff (Reed) has all of the information about the alleged deleterious substance complained against and is in a position to allege precisely what the chemical substance and irritant was that caused her hurt."

#### Must Divulge Formula

Recently a higher court held that in suits involving injuries to a user of a soap product, it is the manufacturer's legal duty to comply with a state law and divulge the formula to the court.

For example, in Putney v. Wills, 226 S. W. (2d) 737, the testimony showed that a person named Putney claimed that after using a washing powder, her hands and wrists became infected, and for nine months she was unable to work. She suffered pain and her fingers had to be wrapped individually.

She sued the manufacturer of the washing powder for heavy damages. During the trial the court instructed the manufacturer to divulge its formula used in making the compound so that this information could be submitted to experts for an opinion as to whether it would be injurious to Putney's hands. This the manufacturer re-

fused to do, although a state law provides that manufacturers must divulge such information on request of a court. Then the lower court awarded Putney several thousand dollars damages.

The manufacturer appealed to the higher court claiming that the judgment should be reversed because there was no proof that the ingredients it used to make the washing compound were injurious. Nevertheless, the higher court approved the lower court's verdict, saving:

"We think whether appellant (manufacturer) should have been compelled to reveal the proportionate parts of the ingredients in its soap powder, was a matter within the sound discretion of the learned court."

With respect to the argument that such a state law is valid and that a court cannot compel a manufacturer to divulge its trade secrets, the court said:

"It is rather a severe proceeding to compel appellant (manufacturer) to reveal to the World and to its competitors, not only the ingredients used by it in its Washing Compound but also the proportions of such ingredients; but such is apparently the plain meaning of Section 85, page 379, Mo. R.S.A. Section 847.85, and it is the duty of this Court to enforce the law, as laid down by the Legislature, even though such law may seem harsh to us."

#### Fails to Prove Case

Recently another higher court held that a user of soap or detergent products cannot recover damages for alleged injury to the skin, unless positive evidence shows that the product contains noxious elements.

For illustration, in Worley v. Procter & Gamble Manufacturing Co., 253 S. W. (2d) 532, the testimony showed facts, as follows: A woman named Worley was employed to wash dishes in a restaurant. She used "Tide" for this purpose. The testimony showed that on the outside of each box of "Tide" appeared considerable printed matter extolling the virtues of "Tide," referring to it as the "new washing miracle" 'and, in connection with dishwashing, after setting forth its superior qualities, the following representation appears: "And, of course, 'Tide' is kind to hands, too."

Worley alleged that she experienced an itching on the back of her hands, then a breaking out which spread up to her shoulder on the inside of both arms. It extended to no other portion of her body. Worley further testified that she may have been using "Tide," both in the restaurant and at home, for some six months before the breaking out on her hands occurred. While working in the restaurant her hands were quite often in dishwater containing "Tide."

In subsequent litigation the lower court held that Worley could recover damages from the manufacturer of "Tide." However, the higher court reversed this judgment, holding the manufacturer not liable to Worley saying that it was just as reasonable to suppose that the injury was the result of an allergy, as to speculate that it was caused by a poisonous substance in the detergent. The court said:

"She (Worley) produced no analysis showing it contained any deleterious substance. Her physician stated as his conclusion that the rash from which plaintiff (Worley) suffered was caused by the washing powder, but did not identify any noxious element therein; nor did he testify that the washing powder in question was in any way detrimental or injurious to the skin of normal persons. . . . It is just as reasonable to suppose that plaintiff's (Worley's) injury was the result of an allergy. In such a case, recovery cannot be allowed."

#### Jury May Decide

Few people realize that where it is doubtful that an injured employe is entitled to receive compensation under the State Workmen's Compensation Act, a jury may decide the issue.

For illustration, in Brecount v. Procter & Gamble Co., 144 N. E. (2d) 189, the testimony showed facts, as follows: An employe, named Brecount, had been employed for over 20 years by Procter & Gamble Co. Then he splashed some fatty alcohol lye into his right eye while in the performance of his duties at company's plant. Brecount was hospitalized for two weeks and then he returned to his regular work. Four years later he had another injury to his eyes.

In subsequent litigation the higher court held that a jury may decide whether there is a causal connection between the claimed disability and the last injury. If so the employe is entitled to compensation under the State Workmen's Compensation Act, otherwise not.

#### Liable on Guarantee

Sometime ago a higher court rendered an important decision to the effect that it is well known that a manufacturer need not make a guarantee of the good quality of his product, but if he does make a guarantee he is obligated to fulfill its exact terms to both the purchaser and the latter's customers.

For instance, in Free v. Suss Co., 197 Pac. (2d) 854, the testimony proved that the salesman for a soap manufacturer told a retail dealer that he was introducing on the market a new soap product and that it was a good product in a good looking package, likely to stay upon the market. The salesman showed the dealer a guarantee of quality printed on the back of the package, and told the dealer that if he had any trouble to refund the customer's purchase price and that the factory would take care of him. The dealer purchased a few cases. This soap proved to be a good product and entirely satisfactory. When the salesman returned a few weeks later the dealer placed an order for 100 cases of the soap. The dealer found that the one hundred cases of soap were unfit for the purposes for which they were sold and were unmerchantable. As the dealer had paid the manufacturer for the unsatisfactory soap and refunded some money to his dissatisfied customers, he sued the manufacturer to recover the full purchase price.

The higher court promptly held that the manufacturer must take back the soap still in the hands of the dealer, and refund the full purchase price of the 100 cases. The court said:

"The manufacturer is not in position to deny liability . . . As to the manufacturer it was under no obligation to make the guarantee, but having made it, it does not lie in its mouth to repudiate it when the condition of complete unsuitability for the market brings the guarantee into play."

#### **Must Prove Negligence**

Another convention member asked: "If a soap company employs a contractor to perform work on the company's premises, is the contractor liable in damages for all injuries to the premises which the company proves that the contractor causes?"

For example, in Cambo Co. v. Snook, 262 Pac. (2d) 767, it was

.....

shown that certain buildings were used by a soap manufacturer for processing coconut oil. Later the company which owned the buildings decided to remove the processing equipment consisting of bins, vats, pipes and other metal equipment. A contractor agreed to remove the equipment for \$1,000. Acetylene torches were used to cut the equipment into pieces so that they could be removed from the building through existing exits. During the time of the dismantling operations a fire broke out which considerably damaged the building. The company sued the contractor and the testimony proved that use of a torch by the contractor's employes had caused the fire. The lower court awarded the company \$4,200,00 damages. The contractor appealed to the higher court which reversed the verdict, saying:

"None of the witnesses testified that a torch was being operated by anyone in such a negligent manner that the flame from it was carelessly allowed to come in contact with any wooden part of the building. . . . Negligence cannot be assumed merely because the evidence shows that a fire occurred or an accident happened. Negligence must be established by evidence or by a legitimate inference from the established facts."

Hence, although the evidence proved that the contractor's employe had started the fire when using the acetylene torch, yet the contractor was not liable to the company for resultant damages because no proof was given that the contractor's employe was negligent when using the torch.

#### File Promptly for Patent

A leading higher court has held that the public use of an invention for one year before the inventor files an application for a patent, renders the subsequently issued patent void.

For illustration, in Lorenz v. Colgate-Palmolive-Peet Co. 167 Fed. (2d) 423, it was shown that an inventor named Lorenz filed an application for a patent for a process

for the manufacture of soap and the recovery of glycerine. After the patent was issued legal controversy arose over validity of the patent.

Since the testimony showed that the process had been in use more than a year prior to the date the inventor filed his application for a patent, the higher court held the patent void and invalid.

This court went on to explain that this same law is applicable although the "public" use was made by a company's employe who had been told by the inventor how to make the invention. The court said:

"We think that Congress intended that if an inventor does not protect his discovery by an application for a patent within the period prescribed by the law and an intervening public use arises from any source whatsoever, the inventor must be barred from a patent or from the fruits of his monopoly, if a patent has issued to him."

#### **Must Pay Interest**

A good legal question is: If a seller fails to deliver merchandise paid for in advance how much money can the purchaser recover from the seller? All higher courts agree that a party who breaches a valid contract is liable to the other party for full damages, plus legal interest from the date the contract was breached. For instance, in Keeton v. Gillam Soap Works, 215 S. W. (2d) 675, Gillam Soap Works sued one Keeton for \$10,-000.00, plus interest, and proved these facts: Gillam Soap Works advanced to Keeton \$10,000.00 in payment for tallow which Keeton failed and refused to deliver to it in accordance with a previous contract.

The higher court awarded the Gillam Soap Works \$10,000.00, plus \$575.00 interest, saying: "We sustain appelee's (Gillam Soap Works') complaint but we hold that it was entitled to interest only from the date the contract was breached. . . . The interest on the said sum for the said period of time at the rate of 6% is \$575."

#### Damages to Employees

An official of a large soap corporation asked this legal question: "If a corporation hires an employee for a year and discharges him before the year has expired, can the employee sue and recover damages?"

According to a late higher court decision the employee can recover heavy damages. For example, in the leading case of Cavalier v. Weins, 80 Atl. (2d) 918, the testimony showed that a man named Weins was employed by a corporation for a period of one year at an agreed salary of \$125.00 per week. Weins continued in the employment for about four months, when he was discharged. Weins sued the corporation for full salary for eight months due the balance of the year.

The lower court held that the corporation must pay Weins \$2,044.00 damages. The higher court approved the verdict and said: "Trial was by jury and resulted in a verdict for plaintiff (Weins) for \$2,044, which represented the amount of his claim less certain deductions for salary he had earned elsewhere during the period involved. . . . The record revealing no error in connection with the matters, the judgment of the trial court will be affirmed."

Another important and well established point of law is that a soap corporation may be compelled to pay a discharged employee a full year's salary, although the contract of employment is for only one year, and the employee worked this full year.

See Willis v. Alison Corp., 87 Atl. (2d) 1015, where the testimony showed these facts: A corporation and an employee signed a written contract of employment in which the corporation agreed to pay the employe \$275.00 per week for the full 12 months. At the termination of the 12 months period the employe remained in the employ of the corporation; and after two weeks of the second year the corporation discharged the employee who then sued the corporation for an amount equal to

\$275.00 per week for 11½ months, or \$14,162.50.

The higher court awarded the employee this amount of damages and explained that when an employee is hired for a specific period and no new contract is made at the end of the employment period and the employer fails to notify the employee that the employment contract will not be extended, the employment contract is automatically extended for a period equal to the duration of the written employment contract.

Therefore, according to this law, an employer must keep an employee in his employment for another year and pay him the exact wages specified in the original contract if the original employment contract is for a year and it is allowed to elapse without giving the employee a proper notification that the original contract of employment will not be renewed.

#### Soap Factory Is Needed

In answer to another legal question presented by an official of a soap company I located a recent higher court decision which held that operation of a soap factory is indispensable and, further, that all owners of homes in close proximity to the factory can expect to smell offensive odors.

For illustration, in Borgne-mouth v. Gulf Soap Corp., 31 So. (2d) 488, the testimony showed facts, as follows: A soap company erected a new plant at a cost of more than \$100,000. It did emit some odors, due largely to the company's inability to secure proper machinery to suppress them, and due also to the company's inability to secure the necessary railroad cars for the prompt removal of bones that accumulated during the plant's early operation at the new site.

The owners of 10 nearby dwellings sued the soap company for heavy damages. The court clearly explained that a rendering plant which emitted nauseous odors causing much discomfort to neighboring residents and unreasonably inconveniencing them in reasonable enjoyment of their property, constituted a "nuisance" which must be abated. On promise of the soap company's officials to subdue the odors, the higher court held the company liable in nominal damages of \$250.00 to the owner of only one nearby dwelling. The court said:

"It appears that the defendant (Gulf Soap Corp.) has been making every possible effort to remedy as many of the objectionable features of its operations as it could under existing conditions. . . . The business of rendering oils, fats, and other substances of a kindred character from animal matter is an indispensable business for the manufacture of soap."

This court went on to explain that the evidence did show that because of the condition of the plant and the method of its operation nauseous and offensive odors have been emitted from it, causing much discomfort to those residing in the neighborhood and unreasonably inconveniencing them in the reasonable enjoyment of their property. Nevertheless since the soap company is making every effort to eliminate the nuisance, it must be given benefit of its efforts.

For comparison, see the leading higher court case of Soap Corporation of America v. Balis, 223 S. W. (2d) 957. In this case the higher court held that 72 owners of dwellings near a soap factory could collect \$1,500.00 each, plus a 331/3% depreciation in their property. The testimony was given that the damages were caused by the Soap Corporation of America grinding and processing soap in the vicinity of their homes. The process emitted odors that smelled like dead fish, dead cattle or similarly decayed material. Also, the testimony showed that in the operation of such plant it produced foul and obnoxious odors that spread into the homes, settled on clothing and prevented the enjoyment of the homes. This court said: "It is the

law that a person cannot be driven from his home or be forced to live in uncomfortable surroundings by the unlawful acts of a company which, without due regard to its neighbors' rights, erects a plant in the midst of a residential section that will, regardless of the care it may take in its operation, allow obnoxious odors to emanate therefrom causing discomfort to those in the immediate surroundings."

In this case the soap company had leased land from a city and recently constructed its plant in an area used previously strictly for residential purposes.

#### **Contributory Negligence**

Considerable discussion has arisen from time to time over the legal question: Under what circumstances is a soap company not liable in damages for injuries to employees? A higher court rendered an unusually important decision, knowledge of which will save soap companies many thousands of dollars in the future. This court held that if an employee knows that a dangerous condition exists, he cannot recover damages from his employer for injuries caused by this dangerous condition or defect.

For instance, in Triggian v. Olive Oil Soap Co., 62 Atl. (2d) 153, a woman named Triggian, employed by Olive Oil Soap Co., one evening sustained severe injuries when she fell down a flight of unlighted steps. She sued Olive Soap Co. for damages, contending that company's officials were negligent in failing to provide adequate illumination so that she could clearly see when descending the steps. Since the testimony proved that Triggian knew that the steps were not illuminated, the higher court refused to hold the Olive Oil Soap Company liable in damages to Triggian.

#### Truck Driver Causes Injury

Recently while talking with an official of a large soap manufacturing company, he asked: "Is a

(Turn to Page 188)

#### TALL OIL FRACTION

(From Page 51)

cedure for the saponification of the product to give a material of about 95 per cent sterol content in a crystalline form. The sterol content is made up of 85 per cent betasitosterol and 15 per cent of a saturated sterol believed to be sitostanol. Although beta-sitosterol can also be obtained from other plant sources, we believe that if a significant advance is made in commercial sterol synthesis and utility, a ready source with reasonable availability is present in the form of the tall oil ester.

6. Stuffing compounds: The tall oil derived product has found acceptance as a replacement for wool grease in stuffing compounds in the manufacture of heavy leather articles.

7. Miscellaneous uses:
Potential miscellaneous uses for
the tall oil fraction product would
be (1) plasticizing agent in rubber
compounding (2) stabilizer for
water-in-oil emulsion type printing
inks (3) further modifications such
as hydrogenation, sulfonation, and
ethylene oxide condensation should
increase its utility.

#### Summary

Tall oil offers a rich source of a new fraction which is quite similar to lanolin in physical and chemical properties. Based on current levels of tall oil refinery, approximately 45 million pounds of the new lanolin like fraction could be produced annually. It is believed that the same price stability and dependability of supply that have characterized tall oil would apply to the tall oil ester. These considerations, plus the properties of the material itself, should make the lanolin type fraction of tall oil an interesting material for current products as well as those still in the stage of research and development. Approximately one million pounds were produced and sold in the past year, and the fraction is

available in tankcar quantities at prices competitive with those of wool grease.

#### Bibliography

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- Kirk-Othmer, Encyclopedia of Chemical Technology, Volume 15, The Interscience Encyclopedia, Inc., New York, 1956, pp. 120-123.
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#### Management Award to R. R. Deupree

R. DEUPREE, chairman of the board of Procter & Gamble Co., Cincinnati, was awarded the Gantt Gold Medal last month for "distinguished achievement in industrial management as a service to the community" by the American Management Association and the American Society of Mechanical Engineers. The medal, awarded annually, was presented to Mr. Deupree at a luncheon of the AMA in New York, Sept. 24.

In an address following the presentation Mr. Deupree called for a "new approach" to governmental controls on competition which would re-emphasize that anti-trust laws are intended to protect consumers and not to protect inefficient companies. He charged that this new approach is needed because U. S. government agencies "are losing sight of the fact that the anti-trust laws were passed in the first place to protect consum-

ers." In recent years, the P&G executive stated, these agencies have tended to penalize a company simply because it has been successful in serving consumers efficiently.

This new approach to government regulation should be based on three principles, according to Mr. Deupree. "First, competition is good and necessary. Second, certain legal controls of competition are good and necessary. Third, these legal controls, however, should be designed to preserve competition and protect consumers. not to protect the inefficient producers."

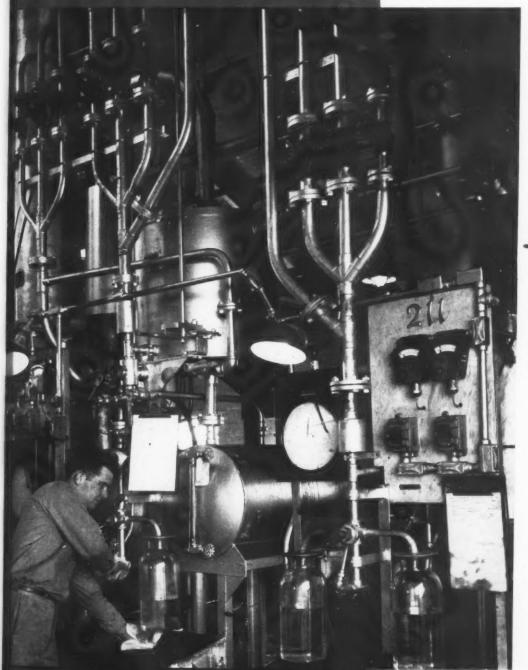
In his address, the P&G chairman went on to discuss the accomplishments and responsibilities of industrial management in the American economy and pointed to "increased productivity per worker" as the key to the great growth of the United States in this

(Turn to Page 189)

R. R. Deupree, center, chairman of Procter & Gamble Co., Cincinnati, receives Gantt medal from John A. Handy, Jr., financial vice-president and controller, Chemical Construction Corp., chairman of award committee, as American Management Assn president, Lawrence Appley, right, looks on during AMA meeting, Sept. 24.



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#### Chemical news whets the competitive edge

In making chemical specialties, the big difference between breaking even and breaking profit records is often made up of little things. Maybe it's a fraction of a cent saved per unit. Maybe it's a few minutes shaved off a production schedule. Or maybe it's a slight (or startling) improvement in product performance. Whatever the factor, the change for the better often results from someone with a sharp eye on costs keeping a sharp eye on news. This series of chemical news notes is designed to help the man looking for profitable news.

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Route	to:		

# PROFITABLE "DEPRESSION" HITS AEROSOLS

# Chlorothene cuts unit costs by doubling as a depressant and solvent in aerosols.

A research chemist always feels like he's made a "strike" in bowling over costs when he finds one ingredient that will do the work of two. And chemists in the aerosol business have been scoring well lately by substituting a new solvent, Chlorothene® (Dow 1,1, 1-trichloroethane, inhibited), for a portion of the propellant system in aerosol products.

Dow is certain Chlorothene will offer

definite cost advantages. It's not only a lower cost depressant—it also permits the use of less ethanol, thereby reducing the degree of flammability of the finished formulation. These are major factors in the choice of Chlorothene as a pressure depressant and solvent in aerosols.

Versatility—Low Toxicity. The low toxicity of Chlorothene and the fact that it has no flash point, no fire point (flammability characteristics similar to trichloroethylene), has given it the edge in many aerosols. Filling losses are lower and corrosion presents no special problems with non-aqueous aerosols—

performs well with buna gaskets.

The unique combination of desirable properties has helped aerosol manufacturers put better products on store shelves . . . at lower cost. And their customers . . . who really press the button on profits . . . find a pleasing difference in hair sprays, insecticides, moth-proofing and water-proofing aerosols containing Chlorothene.

The safety and high solvent power of Chlorothene have also made it the preferred solvent for many types of industrial cleaning, for adhesives, for lubricant carriers and cutting oils and for fabric cleaning formulations.



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#### METHYLENE CHLORIDE

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Aerosol users once turned up their noses at the smelly solvents in sprays. No more. Aerosol makers are replacing disagreeable petroleum solvents with Dow Methylene Chloride and they're getting an excellent pressure depressant at the same time . . . at a saving.

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In household aerosols, Dow Methylene Chloride is increasing formula efficiency, eliminating objectionable odors . . . and saving money on every unit! For more information, write to Dow.

#### METHOCEL 60 HG

Unique gum combines solvent solubility with aqueous gum properties

To keep customers from going back to squeezing the tube, makers of aerosol toothpastes have to be sure their product dispenses smoothly and without a sputter. Methocel<sup>10</sup> 60 HG is being checked out in several different brands. And others are following suit.

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Methocel 60 HG is only one of the family of synthetic gums Dow makes under the Methocel trademark (for methylcellulose). Others find a wide variety of applications as thickeners, stabilizers, film formers, emulsifiers and binders. Methocel 90 HG, 15,000 cps., in very low concentration, is providing efficient thickening at low cost. Methocel 90 HG also eliminates thermal gelation problems at temperatures below 90 degrees C.



Methocel offers better emulsion stabilization and flow characteristics as well as helping to maintain desired consistency.

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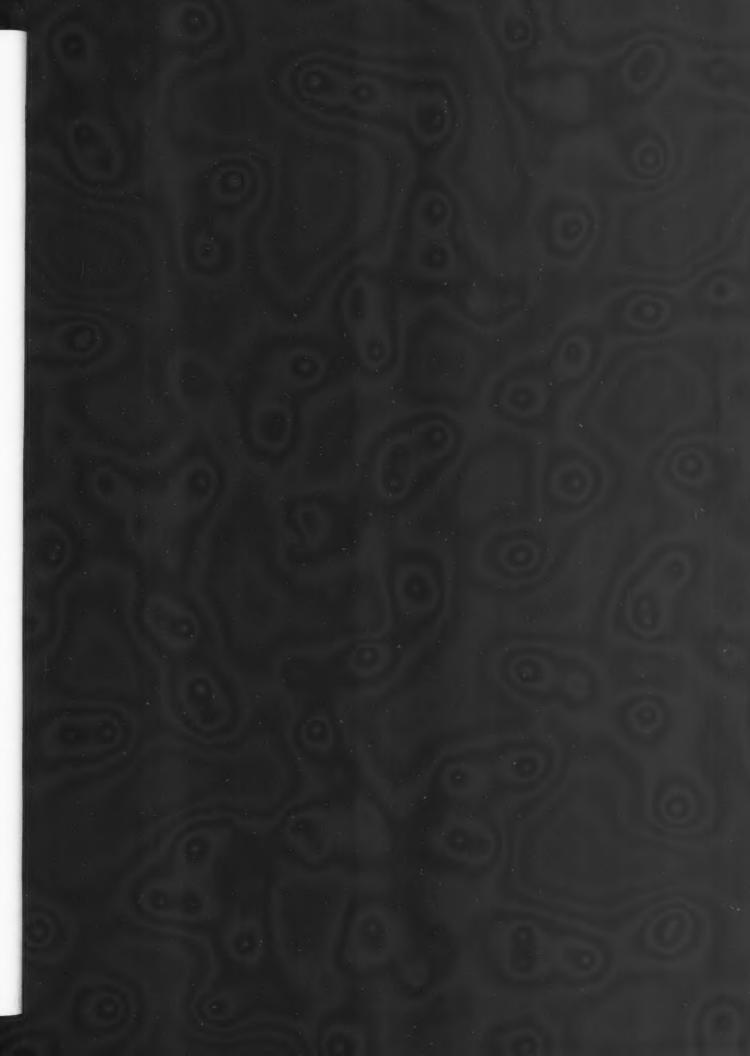
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Bruce Seitz, left foreground, of the research and development department of S. C. Johnson & Son, Inc., Racine, Wis., demonstrates new detergent sanitizer to group of firm's maintenance products department salesmen. Occasion was field sales meeting. See story on pg. 71.



## Proceedings . . .

of the Chemical Specialties Manufacturers Association, held May 20-21, 1958, at Cincinnati, O., are now available for general sale to non-members of the Association.

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Proceedings are bound in a paper-covered volume, 180 pages,  $8\frac{1}{2} \times 11$ . Sent postpaid at \$7.50 per copy in the U. S.; \$8.00 elsewhere. Checks should accompany orders. Also some copies of proceedings of prior CSMA meetings are available at the same price. Master index of all proceedings up to and including 44th annual meeting available on request. Send orders or requests for further information to

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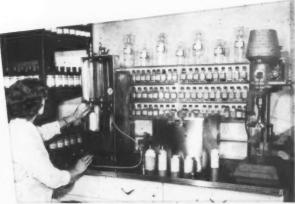
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SOAP and CHEMICAL SPECIALTIES

## DIAZINON

Now available for residual household sprays providing outstanding control of resistant and non-resistant roaches and many other common household pests.

#### By D. B. Whitlow

Geigy Agricultural Chemicals, A division of Geigy Chemical Corp. Ardsley, N. Y.

ABEL acceptance was granted on November 20, 1957, by on November .... the Registration Unit, Pesticides Regulation Section, Plant Pest Control Division, United States Department of Agriculture, for a liquid household insect spray and a pressurized household insect spray containing 0.5 per cent Diazinon. When combined with synergized pyrethrin concentrates in base oils, such as deodorized kerosene. Diazinon household sprays are effective against a large number of common household pests. including resistant and non-resistant strains. The accepted labeling covers cockroaches, ants, silverfish, spiders, crickets, carpet beetles and brown dog ticks indoors; flies, mosquitoes, wasps, flying moths, fleas, chiggers, ants and brown dog ticks out of doors.

This use for Diazinon has followed years of experimental and development work by the manufacturer, Geigy Agricultural Chemicals, research workers in federal and state agencies, qualified personnel in commercial pest control firms, independent laboratories and research personnel in a number of foreign countries.

First recognized for its outstanding insecticidal and residual effectiveness against houseflies, Diazinon was introduced commercially in 1954 as a fly control in-

secticide. Since that time, the versatility of Diazinon has been demonstrated by its acceptance for use in many fields of insect control. Diazinon is being widely used by professional pest control operators against resistant and non-resistant cockroaches and other household pests, for fly control in dairy barns, for fly control in food processing plants and in cage layer poultry operations, to control a wide variety of insects on fruit and vegetable crops and against a number of pests attacking ornamental plants.

Reports of resistance of the German cockroach to chlorinated hydrocarbon insecticides (1) stimulated investigations by U.S.D.A. workers (2) and certain commercial pest control firms (3) to find insecticides in other chemical groups that could be effectively utilized to control this pest. The value of Diazinon for this purpose was soon recognized and, in 1956, label acceptance was granted for the use of 0.5 per cent Diazinon solutions for the control of cockroaches by pest control operators inside homes. Further development work resulted in the addition of ants, silverfish, brown dog ticks, fleas, chiggers and lawn chinch bugs to the number of household pests that the pest control operator can combat with Diazinon.

#### **Physiochemical Properties**

Diazinon is 0,0-diethyl 0- (2-isopropyl - 4-methyl-6-pyrimidinyl) phosphorothioate. The pure product is a colorless liquid which boils at 83-84°C. under 0.002 mm Hg. The technical product (92-96 per cent pure) is pale to amber brown. It is soluble up to 0.004 per cent in water and dissolves readily in petroleum solvents as well as alcohol, xylene and acetone.

The following table gives the vapor pressure and volatility of Diazion:

Tempera- ture C	Vapor Pressure mm Hg	Volatility mg/m <sup>3</sup>
10	4.6 x 10-5	0.8
20	1.4 x 10-4	2.4
40	1.1 x 10-3	17.6
60	6.6 x 10-11	96.0
80	3.3 x 10-2	460 N

#### Toxicology

In a comparison of 81 common pesticides, Conley (4) classifies Diazinon as a moderate risk insecticide to humans. Diazinon has been widely used by pest control operators for over two years without an authentic case of operator illness caused by the insecticide.

The acute oral toxicity of Diazinon has been determined by extensive toxicological studies at the Hazleton Laboratories, Falls Church, Va. The acute oral LD-50 to rats, when administered as technical Diazinon was found to be about 125 mg./kg. Administered as 25 per cent wettable powder, the acute oral LD-50 was found to be 264.5 mg./kg in terms of technical Diazinon.

Chronic oral toxicity studies with Diazinon were made by twoyear feeding tests on rats. Levels of 10,000 and 1,000 p.p.m. of the insecticide were maintained in their diets without any significant differences in mortality, food consumption or signs of toxicity being evident in the experimental animals, as compared with their respective controls. No significant gross or microscopic pathological symptoms were noted which could be attributed to the dietary feeding of Diazinon during the twovear period.

During investigations at the Hazleton Laboratories, designed to determine possible dermal toxicity hazards of Diazinon, a one per cent solution in "Deobase" was applied in five consecutive daily doses to the skin of guinea pigs. No mortality or evidence of gross toxicity resulted, and there was no inhibition of plasma or red blood cell cholinesterase activity.

Studies have been conducted to determine the possible effects of Diazinon on the cholinesterase activity of workmen exposed to Diazinon. Blood samples were taken from three groups of pest control operators who had been working with Diazinon, either preparing finished sprays from concentrates or applying the sprays in routine pest control jobs, for periods of up to three years. The results of the tests showed that the cholinesterase level of none of these individuals was decreased to a point considered to be hazardous. In addition, analyses of blood samples taken from workers exposed to Diazinon during chemical manufacturing operations were conducted with similar results.

The relatively low vapor pressure of Diazinon reduces the

Table I

Weeks of control of Houseflies with Residual Sprays Applied in Dairy
Barns (Hansens, E. J., New Jersey Agriculture 38(1): 5, 6, 7, 15.)

Material	Amount per 100 gals. spray	Weeks of control		
Diazinon, 25% emulsifiable Diazinon, 25% emulsifiable Diazinon, 25% wettable Diazinon, 25% wettable American Cyanamid 4124	4 gals. 2 gals.* 32 lbs. 16 lbs.*	7 to 12 12 7 to 12		
25% emulsifiable 50% wettable Chlorthion, 25% wettable Chlorthion, 25% wettable Malathion, 25% wettable plus sugar Dow ET-14, 25% wettable	2 gals.* 8 lbs.* 32 lbs. 16 lbs.* 40 lbs. 20 lbs. 16 lbs.*	3 to 6 3 to 6 7 4 2 to 4		
Dow ET-15, 25% wettable	16 lbs.*	4 to 6		

\*Produces 0.5 per cent toxicant in the sprays. All other quantities listed produce 1.0 per cent spray except for malathion which is 1.25 percent,

possibility of injury due to inhalation. At the Hazleton Laboratories the inside of a shed was thoroughly sprayed with a one per cent Diazinon spray. Five minutes after the spray was applied, there was less than one part of Diazinon per million parts of air within the enclosed shed. Three hours after spraying, no Diazinon could be detected in the air. Fowl, dogs and rats placed in the shed immediately after spraying were unaffected, even when kept in the building overnight.

Although there are no unusual hazards associated with the proper use of Diazinon, as with all pesticides, directions on the label should be followed carefully.

#### **Insecticidal Properties**

The importance of household pest control has long been recognized by public health authorities as an integral part of any community health program. To the householder, these pests are more generally recognized for their nuisance characteristics. A successful control program must include both good sanitation practices and the proper application of effective chemicals.

For the householder, and other users of insect sprays, a quick kill of insects that are openly in evidence is probably of first importance. However, in controlling roaches, and other insects, where the sources of infestation are more likely to be hidden, effective control is largely dependent on the residual properties of the insecticide used.

The insecticidal and residual properties of Diazinon make it an ideal insecticide for use in the control of a number of important household pests. These properties have been demonstrated by field and laboratory tests, and the following examples have been taken from the numerous reports on these tests.

#### Houseflies

Hansens and Bartley (5), reporting on tests made in 1952 in Monmouth and Middlesex counties, N. J., with three new compounds, described Diazinon as being very promising for the control of houseflies. At a one per cent concentration the residual action of Diazinon extended from four weeks against flies resistant to chlorinated hydrocarbons up to 10 weeks against non-resistant strains. Wingo (6) reported on test applications of Diazinon made at the University of Missouri in late May, 1953. Diazinon was applied in a barn at a strength of one per cent, and complete kill of a fly population averaging 20 flies per square foot was recorded on the first day. Excellent control was provided by

this spray for 35 days, when a gradual build-up was noticed. Practical control was afforded for an additional 14 days, and at that time it became necessary to respray the barn. A second spray of Diazinon, applied at one per cent concentration, gave good control for an additional period of 47 days. Tests conducted by Hansens (7) during 1955 in New Jersey proved Diazinon to be by far the best residual fly control material tested. With a spray containing one per cent Diazinon, at least 12 weeks of control was obtained, while a 0.5 per cent spray gave effective control for from seven to 12 weeks.

At the 1958 Purdue Pest Control Conference, S. James Henry, of Hygienic Sanitation Co., Philadelphia, (8) discussed his company's experiences in fly control work in supermarkets over the four-year period 1954-1957. During this period 617 applications of Diazinon were made at one percent concentration, and 100 percent control was obtained from each application. No retreats were necessary when Diazinon was used.

#### Cockroaches

In field tests on the resistant German roach, Bedingfield (3) found Diazinon to be one of the better insecticides for control of this pest. Diazinon gave an initial kill about equal to chlordane, and

residual control extended over periods of from six to 16 weeks, depending upon conditions of the buildings being treated. The Orlando, Florida, U. S. Department of Agriculture laboratory conducted investigations to determine the effectiveness of various compounds against resistant German roaches. These tests, described by Keller et al (2), showed Diazinon to give 100 per cent kill after two hours against the most resistant strain of roaches used in the tests, and 100 per cent kill after one and three quarters hour against the normal laboratory strain used. In tests conducted by the U.S.D.A. during 1956 and reported by Lofgren et al (9), six homes, with an average pre-treatment count of 72 roaches, were treated with 0.5 per cent Diazinon in oil. The first day there was a 91 per cent reduction in the live roach population, and from five days until 41 days there was a 98-99 per cent reduction in the live roach population. In another set of tests, homes were treated with oil sprays containing 0.5 per cent Diazinon. Of four homes treated, one was completely free of roaches during the 26-week test period; a second required retreatment after 12 weeks, a third after 20 weeks and the fourth after two and 12 weeks. In March, 1958. the U.S.D.A. (10) recommended Diazinon as one of the insecticides

to use for control of resistant German roaches.

#### Brown Dog Ticks

After evaluating laboratory tests with two chlorinated hydrocarbon and four organic phosphate insecticides for effectiveness against resistant brown dog ticks, Price (11) selected Diazinon to be used in further tests. On Setpember 15, 1956, approximately one half of the city dog pound at Bryan, Tex. was sprayed with a 0.25 per cent Diazinon emulsion. The ticks were eliminated in the sprayed area for almost six months. On October 8, 1956, the small animal experimental house at the Texas A&M School of Veterinary Medicine was sprayed with 0.5 per cent Diazinon emulsion. The house was heated and heavily infested with ticks, and new dogs were periodically being brought in from the Bryan pound. The house was tick free for a period of seven months following treatment. In both instances, dogs were sprayed at the same time, with no apparent ill effects.

#### Fleas

Wilson et al. (12), reporting on the effectiveness of nine insecticides for the control of natural populations of cat and dog fleas in yards, showed that Diazinon at 0.5 per cent concentration gave 99 per cent control after 63 days. The

Table II. Suspectibility of Orkin No. 5 and Regular Colony German Cockroaches to Residues of Organic Phosphorus Compounds on Masonite Panels. (Duplicate Tests of 10 Adult Males Each.)

(Keller, J. C. et al. Pest Control 24(9): 12, 14, 17, 19, 20.)

							-							
		Percent Mortality <sup>1</sup> at indicated Hours of Exposure												
Compound	1	11/2	13/4	2	21/2	3	31/2	4	5	6	7	10	24	48
					Orkin N	io. 5								
Diazinon	0	55	90	100		-	-	100000	-	-	-	-	_	-
Malathion	0	5	5	10	20	25	30	35	40	40	55	75	75	100
Chlorthion	10	40	45	50	55	70	95	100	(entires)	_	-	_	_	-
Bayer L 13/59	0	0	0	0	0	0	0	0	20	50	85	100	-	_
Bayer 21/199	0	0	0	0	0	0	0	0	0	0	5	5	15	90
American Cyanamid 4124	0	0	0	60	15	80	100	-	-	-	-	-	-	-
Untreated check	0	0	0	0	5	5	5	5	5	5	5	5	5	10
					Regu	lar								
Diazinon	5	90	100		-	- Million	-	-	-	-	-	reter	-	-
Malathion	0	0	0	0	0	20	35	40	65	65	65	70	100	-
Chlorthion	0	0	0	20	70	95	95	100	-	-	-	-	_	_
Bayer L 13/59	0	0	0	0	0	0	0	0	0	0	1/5	100	-	-
Bayer 24/199	0	0	0	0	0	0	0	0	0	0	0	0	5	70
American Cyanamic 4124	0	0	0	5	70	85	95	100	_	-	-	-	_	-
Untreated check	0	0	0	0	0	0	0	0	0	0		0	0	0

<sup>1.</sup> Includes roaches that were knocked down and moribund.

normal rate of application for the insecticides tested was one gallon per 1,000 square feet.

#### **Carpet Beetles**

Twelve oil-base household sprays, including a 0.5 per cent Diazinon solution, were applied as direct sprays by Miller et al (13) in tests to determine their effectiveness against larvae of the black carpet beetle. The results showed that Diazinon was among the insecticides that affected the larvae most rapidly and gave the greatest average per cent moribund and dead at the end of a 28-day period.

#### Ants

Unpublished results of tests show that Diazinon gives immediate and long lasting control of ants when applied to baseboards and other infested areas at 0.5 per cent concentration.

#### **Suggested Formulations**

Liquid and pressurized residual household sprays containing 0.5 per cent Diazinon can be formulated by using "Geigy Diazinon 20S" (a 20 per cent oil solution containing 1.5 pounds of Diazinon per gallon) in combination with synergized pyrethrin concentrates and deodorized kerosene. Following are suggested formulations for both types of sprays.

#### Liquid Household Insect Spray

	Percent			
	By Weight	Gallon		
Geigy Diazinon 20S	2.53	2.20		
MGK Roach				
Conc. 933	3.06	3.00		
Deodorized kerosene	94.41	94.80		
	100.00	100.00		

#### Pressurized Household Insect Spray

 a.) Prepare a concentrate as follows:

Active Active		-	
		r Cent weight	Gallons
Geigy Diazinon	20S	3.62	3.16
MGK Pyrocide			
Intermediate 55	,		
Pyrenone or aero	osol		
Conc. 30-6		1.26	1.13
Deodorized keros	sene	95.12	95.71
		100.00	100.00

b.) Combine the concentrate prepared in (a) with a propellant suita-

ble for delivering a coarse residual type spray. Use 70% (by weight) of concentrate to 30% (by weight) of propellant.

Household sprays containing 0.5% Diazinon, that are highly effective against resistant and non-resistant roaches and a number of other household pests, can be prepared by combining Geigy Diazinon 208 and deodorized kerosene only.

#### Summary

The insecticidal properties of Diazinon against many of the common pests that invade households, institutions, eating establishments and other premises, and its outstanding residual properties, have been proven by extensive investigations over a period of years. These features, and relative safety in use, make Diazinon an excellent insecticide for incorporation in household insect sprays designed to give the user effective and economical control.

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#### **Menzies Hits Ad Creativity**

Point-of-purchase advertising is suffering from too much attention to creativity and not enough to "knowledge of common nuts and bolts," declared A. R. Menzies, assistant product manager, S. C. Johnson & Son, Inc., Racine, Wis., in a recent address before the Merchandising Executives Club of New York.

In support of this thesis, Mr. Menzies cited the fact that a recent survey of 24,000 grocery stores by Johnson's Wax disclosed that "one quarter of the chain grocery stores choose to put up only 25 per cent of the display material furnished by manufacturers," mainly because it was deemed, for one reason or another, not truly helpful.

He went on to say that "most everyone will agree that more displays are lost by inadequate knowledge of mechanics than are gained by the 'big idea.' "Five specific reasons cited by Mr. Menzies for why displays are lost were: inadequate knowledge of the channels of distribution, lack of interest by the trade and sales forces; poor allocation of quantities; ignorance of the purpose of point-of-purchase; and scanty cognizance of the lesser "ins-and-outs" of how to get more displays used.

He also emphasized the importance of keeping in mind the outlet involved and its regional location when planning displays



Ed Grant, service products division field sales manager unveils complete line to maintenance products department

salesmen at sales meeting in Racine, Aug. 21. Sales force demonstrated most enthusiasm for new "Shine-Up" polish

## S. C. Johnson's Sales Meeting

N what could have been the two most beautiful days of the summer in Racine, Wis., Aug. 21-22, over 80 district managers and salesmen of the maintenance products department of S. C. Johnson & Son, Inc., gathered in the home town of probably the largest manufacturer of household chemical specialties in the United States.

They had not come from the eight Johnson sales districts throughout the U. S. to enjoy the clear, cool weather that prevailed in the clean, though highly industrial city on never-bluer Lake Michigan. The meeting—not an annual affair for the entire sales force of the department—was called for the more serious business of pushing Johnson's sales of ever more diversified specialties to new record highs. Which is quite an

assignment considering the firm's sales hit an all-time high in April, after having been the highest in the history of the firm in March.

At the meeting, which took place in the "theatre" of the modern Johnson headquarters building, the highest sales goals in

Top brass of Johnson's maintenance products department, left to right: J. W. Barrett (advertising and sales promotion); Samuel C. Johnson, vice-president, service products division. Mr. Grant, and Thomas B. Martin, advertising and merchandising director, service products division.









#### Captions: Top to Bottom

STAR SALESMEN: Salesmen and district managers who made their quotas were singled out by having large stars bearing their names tacked to chair backs at sales meeting.

HERE'S HOW: Erland Mucio of the research and development department demonstrates performance of new "Shine Up" polish on test panel.

SYMBOLIC: Sam Johnson, fourth generation of the Johnson family in the firm, addresses meeting beneath new corporate symbol.

the history of the maintenance products department were set for September and October. In order to achieve these goals, a two day course of indoctrination, instruction and the unveiling of two new products took place.

In a sharp break with the past, six guests, four of them completely outside the Johnson organization were invited to attend the two-day sales meeting to listen and learn. Participating in this innovation, a word that is more and more characterizing Johnson's operations, were three editorial representatives of trade magazines in the major fields of distribution of the firm's maintenance products, a representative of Johnson's New York public relations firm and the marketing manager of its Canadian affiliate.

Ed Grant, field sales manager, maintenance products department, opened the first morning's session, which began, as on the following

Tom Martin discusses merits of new detergent sanitizer, "Blue Chip."





MORE TOP BRASS: Maintenance products sales force, guests of the Johnson management committee gather in company cafeteria for post-luncheon talk by Howard M. Packard president. Flanking him at head table are (left to right) A. O. Fisher, international division vice-president, partially hidden; W. N. Consolly, public relations vice-president; R. P. Gardiner, manufacturing vice-president; Sam Johnson, vice-president, service products division and R. W. Carlson, household products division vice-president

day at 8:30 a.m., in the easy, friendly manner of a Chicago daytime radio variety show m.c. His midwestern twang, picked up in various stints in Pittsburgh, of which he is a native, in the metropolitan New York area and Racine, heighten the impression of friend-lines and an easy-going nature.

When someone questioned Ed about the seeming lack of high pressure during the meeting, he laughed and replied: "I just level with the men."

To the outsider sitting in on his first sales meeting of the Johnson organization the lack of high pressure and haranguing, so often associated with these gatherings, was quite noticeable. The friendly atmosphere created between Ed Grant and his salesmen was so real it could almost be felt. He was ably assisted by Tom Martin, advertising and merchandising director, who alternated with Ed Grant on the introduction of two new products. He also explained the sales promotion scheduled for the following two months.

Mr. Martin a polished speaker, made his listeners feel he understood well the technical aspects of the products he was discussing. In explaining them he did so clearly, simply and with authority. This was a real challenge since one of the new products introduced was "Blue Chip" a detergent-sanitizer. Such a product calls for the salesman to discuss it with buyers who may be technically trained—which is a departure from calling on a prospect to discuss or demonstrate a new floor wax.

"Young" Sam Johnson, vicepresident of the service products division in addressing the first morning's session, which also heard from Jim Barrett, who spoke on sales promotion and advertising helps his department is providing, put his audience at ease with a couple of very funny boss' son stories. The transition from the humorous to the serious he handled deftly. His remarks about expanding the total market for the firm's products, the broadening of the Johnson product line with "new products that have a 'demonstrable plus'" marked him as extremely competent. One interesting and significant quote: "We don't come out with new products just to chip away at someone else's business, but to make a contribution. . .'

The introduction of "Shine-Up," a furniture polish comparable to aerosol packaged "Pledge," a consumer item, got the biggest response from the salesmen. They apparently had been clamoring for an industrial counterpart of "Pledge."

Following a luncheon at which Howard M. Packard, president of Johnson, addressed the

Gene Kitzke of research and development discusses new "Blue Chip" detergent sanitizer for salesmen at one of five booths set up and manned by research and development

people to tell about new products and answer questions. Louis Sesso, development supervisor, answers questions about new "Shine Up" in photo at right.





Top left: Audience participation as J. J. Greenen, district manager, San Francisco, tells Ed Grant and rest of sales force how he solved a local sales problem. Salesmen crowd around "Step-Ahead" booth for more information, top, center. Salesman (top, right) assists Ed Grant in demonstration. Guests, (bottom, left) from trade publications for first time attend Johnson sales meeting. From left to right: Frank J.

Reilly, Editor, "Soap & Chemical Specialties"; Andrew Clark, Carl Byoir & Associates, Johnson's New York public relations firm; Paul Glamen, Institutions, Ward Drill and Bob Apple, partially hidden, Sanitary Maintenance and Joe Hummer, Washington, D. C., Johnson representative. Salesmen enjoy corn at steak try in Armstrong Park on first night of meeting. Miniature golf course at Armstrong Park.

group in the company cafeteria, the group moved to the recreation room above. Here the research and development department set up five booths to explain some of the technical aspects of the five products in the line and to answer salesmen's questions.

The day's activities concluded with a steak fry (put on by factory personnel at their own request) in the William Armstrong Memorial park, a recreation area for Johnson employees and named for a former sales manager. Many of the company's officers, from the president on down, were on hand to participate in the miniature golf and post dinner singing.

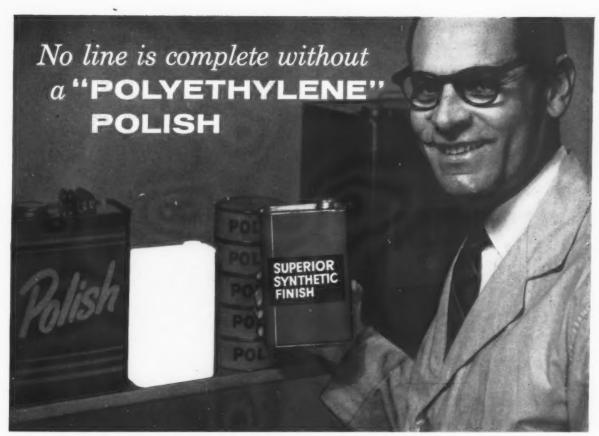
The concluding day's activities featured a session on the "Five Star Promotion," a tour of the research laboratories, and a meeting of district groups.

One unforgettable sight that seemed to epitomize and exemplify the professional way the meeting was organized were the rows of salesmen's cases, labeled and neatly lined up in the lobby of the Johnson headquarters on the final afternoon of the meeting. They would be picked up as the salesmen left.

FOR THE RECORD: Johnson president, Howard M. Packard, front and center, dark suit, and vice-president, Sam John-

son, on his right, pose with salesmen and guests for group photo in front of famous Johnson globe.





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For 200 years, the name of Geigy has stood for quality in the dyestuffs trade. More recently, Geigy research has also brought renown in the field of pesticides.

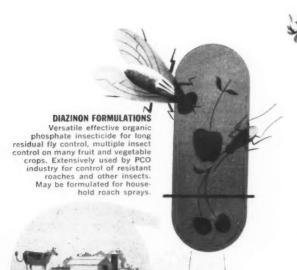
Research in the field of moth damage prevention resulted in "Mitin" durable mothproofing.
Then came the discovery of DDT insecticides, which won a Nobel Prize for Dr. Paul Müller and revolutionized the pest control industry.

Geigy scientists will go on blazing new trails. Research and development programs, and facilities are constantly being expanded—new ideas and new concepts continually tested. From Geigy Research, the future will continue to bring still more effective pesticides—for the benefit of all.

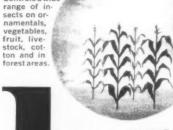




### come more effective pesticides from Geigy Research



GEIGY DDT Used for compounding insecticides for pest control through-out the world. Controls a wide range of in-sects on or-namentals, vegetables,



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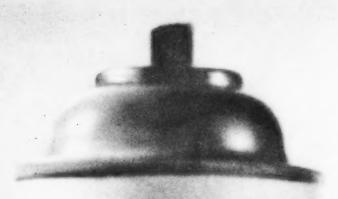
#### **CHLOROBENZILATE FORMULATIONS**

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## PVP/VA COPOLYMERS

(vinylpyrrolidone/vinyl acetate copolymers)

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PVP/VA E-735 (70% vinylpyrrolidone/30% vinyl acetate copolymer) PVP/VA E-535 (50% vinylpyrrolidone/50% vinyl acetate copolymer) PVP/VA E-335 (30% vinylpyrrolidone/70% vinyl acetate copolymer)

E-735 and E-535 are suggested for hair fixative applications including hair sprays, wave set lotions, hair tints and dyes. E-335 is especially suitable for films such as spray-on bandages, protective face masks and gloves, protective coatings for silverware and, with dyes, for tinted decorative sprays. All three copolymers are of interest in pharmaceutical applications.

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## Phenol Coeffient Testing

By L. S. Stuart, L. F. Ortenzio and J. L. Friedl\*

Pesticide Regulation Section
Plant Pest Control Division
U. S. Department of Agriculture,
Washington, D. C.

HE literature contains many reports dealing with the role played by such factors as germicide dilution procedures, pH. temperature, test culture medium composition, test culture age and population density, subculture practices, and loop needle sampling error in phenol coefficient testing. There can be no doubt that variations in all these factors do contribute to variations in the results which will be obtained.

On the other hand, there are only a limited number of reports which contain information bearing on the over-all precision of this procedure when all of the various steps in the A.O.A.C. Method (1) are maintained as specified.

Valko and DuBois (1945) (2) reported that the method allows a deviation of (+) plus 16 per cent in the killing concentration of phenol and that the variation with cationic germicides reached approximately ± 20 per cent. Actually the 16 per cent allowance claimed for phenol by these workers is not consistent with the data subsequently developed by Ortenzio, Friedl, and Stuart (1949) (3) on the resistance of the prescribed test cultures to phenol. With Salmonella typhosa. a mean 10-minute killing dilution of 1-85 was found with a standard dilution deviation of 1-5.6.

This would give a range of dilutions of 1-75 to 1-96 as the 95 per cent confidence limits with phenol or a coefficient of variation for the laboratory making the tests of ± 6.6 per cent and a permitted coefficient of variation within the 95 per cent confidence limits of ± 13.2 per cent. However, the permitted dilution range in the present A.O.A.C. Method is actually less than the 95 per cent confidence limit range since only those readings within the dilution range of 1-85 to 1-95 are considered satisfactory. Since the mean killing dilution found was 1-85, it would follow that the variation allowed with phenol is only (+) plus 11.8 per cent over the mean killing dilution.

Klimek and Umbreit (1948) (4) published data which indicated that approximately a ± 23.0 per cent variation occurs in the testing of quaternary ammonium germicides by this method. This would seem to confirm the findings of Valko and DuBois for this type of product. However, it should be noted that the investigators attributed the high coefficient of variation primarily to the statistical chance of survival of one or more organisms out of the very large population exposed at specific dilution-time intervals; and, they made a careful study of the occurrence of so-called "wild plus" and "skip" readings in support of this belief. Since "wild plus" and "skip" readings are, in fact, the

result of exposed culture sampling error, it can be stated that Klimek and Umbreit found the latter factor to be the basic cause of the high coefficient of variation encountered.

Goetchius and Grinsfelder (1953) (5) reported coefficients of variation for quaternary ammonium germicides of ± 19.4 per cent with nine determinations on the same sample on different days, ± 19.8 per cent with nine determinations on the same day using different dilutions, and ± 11.7 per cent on nine determinations using the same set of dilutions. These results also tend to confirm the findings of Valko and DuBois and Klimek and Umbreit. They do, however, point the finger of suspicion on variations in germicide dilution procedures rather than exposed culture sampling error as a major factor responsible for the high coefficients of variation found.

Recently a preliminary survev was made of all A.O.A.C. phenol coefficient data compiled in the U.S. Department of Agriculture laboratories on individual samples of germicides of different types over the past 10 years. Where the number of determinations ranged from four to 12, calculations were made to determine the mean value, the standard deviation, and the coefficient of variation. The data obtained in this survey was clearly out of line with the results of the workers quoted above except in those cases where a large percentage of the

<sup>\*</sup>Paper presented during 44th midyear meeting, Chemical Specialties Manufacturers Association, Cincinnati, May 20, 1858.



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Table 1. Phenol Coefficient (P.C.) Data on Quaternary Ammonium
Type Germicide.

		_				
		Operator ;	#1		Operator #	ŧ2
Det.		Devia-			Devia-	
Number	P.C.	tion	$(d^2)$	P.C.	tion	$(d^2)$
1	61.1	7.8	60.84	50.0	3.3	10.89
2	55.5	2.2	4.84	61.1	7.8	60.84
3	52.7	.6	.36	50.0	3.3	10.89
4	50.0	3.3	10.89	55.5	2.2	4.84
4 5	50.0	3.3	10.89	55.5	2.2	4.84
6	55.5	2.2	4.84	55.5	2.2	4.84
7	44.4	8.9	79.21	55.5	2.2	4.84
8	55:5	2.2	4.84	55.5	2.2	4.84
9	42.5	10.8	116.64	55.5	2.2	4.84
10	55.5	2.2	4.84	55.5	2.2	4.84
11	47.2	6.1	37.21	50.0	3.3	10.89
12	50.0	3.3	10.89	55.5	2.2	4.84
1.3	44.4	8.9	79.21	47.2	6.1	37.21
14	55.5	2.2	4.84	55.5	2.2	4.84
15	55.5	2.2	4.84	55.5	2.2	4.84
16	55.5	2.2	4.84	55.5	2.2	4.84
17	55.5	2.2	4.84	50.0	3.3	10.89
18	50.0	3.3	10.89	50.0	3.3	10.89
19	55.5	2.2	4.84	61.1	7.8	60.84
20	50.0	3.3	10.89	55.5	2.2	4.84
21	50.0	3.3	10.89	50.0	3.3	10.89
22	50.0	3.3	10.89	55.5	2.2	4.84
2.3	50.0	3.3	10.89	61.1	7.8	60.84
24	55.5	2.2	4.84	55.5	2.2	4.84
25	55.5	2.2	4.84	52.7	.6	.36
TOTAL	1302.8	95.7	515.83	1360.7	80.7	353.19

Av. or Mean Coef. = 
$$1302.8 + 1360.2 = \frac{2663}{50} = 53.3$$

Stand. Deviation = 
$$95.7 + 80.7 = \frac{176.4}{50} = \pm 3.5$$

P.E. of a Single Determination = 0.6745 
$$\sqrt{\frac{\Sigma(d^2)}{n-1}}$$
 = 2.82

P.E. of the Mean = 
$$0.6745 \sqrt{\frac{\Sigma(d^2)}{n(n-1)}} = 0.40$$

95 Per Cent Coef. Limits = Mean Values ± 2 × St. Dev. = 46.3 - 60.3

Coef, of Var. in Dep't Lab. as Per Cent = 6.6 Per Cent

Permissible Coef, of Var. Based on 95 Per Cent Coef. Limits = 13.2 Per Cent

determinations contained "wild plus" and "skip" readings. In such cases, high coefficients of variations were invariably encountered. It was most interesting to note, however, that there were as many nonquaternary preparations as quaternaries which were found to behave in this manner.

When all such preparations were eliminated, it appeared that the method had for all types of germicides tested a relatively constant coefficient of variation of approximately  $\pm$  6 per cent. This would indicate a  $\pm$  12-per cent variation covering the 95 per cent confidence limit range. As a test

on the validity of this observation, a specific study was initiated in which a 10 per cent preparation of a highly active commercial quaternary ammonium germicide, a typical cresvlic acid-soap-neutral coal tar oil germicide, and a typical synthetic phenol-solvent-soap-disinfectant were tested 25 times each by two technicians. Separate dilutions were made for each determination. Since this work was carried out in conjunction with the daily regulatory testing schedule, the study required about 90 days or three months for completion. The results are summarized in Tables 1, 2, and 3.

A study of the individual determinations in these three tables did not reveal any substantial differences between the results of the two technicians. Thus, in each instance the 50 determinations were pooled and employed in determining the average or mean coefficient value, the standard deviation, the probable error of a single determination, the probable error of the mean, 95 per cent confidence limits, the coefficient of variation in the U.S.D.A. laboratory, and the permissible coefficient of variation based on 95 per cent confidence limits.

With the three samples, the coefficient of variation in the Department laboratory ranged from 6.6 per cent to 4.5 per cent with an average value of 5.8 per cent. The 6.6 per cent found with the quaternary ammonium germieide was slightly higher than the 6.3 per cent found with the cresvlic acidsoap-neutral-coal tar oil germicide and both were considerably higher than the 4.5 per cent found with the synthetic phenol-solvent-soap type preparation. This might be construed as indicating some significant differences between types of chemical germicides if it were not for the existing data compiled on the pure chemical phenol by Ortenzio, Friedl, and Stuart (1949). In this study, the coefficent of variation in the resistance of the test organism S. typhosa to phenol was found to be exactly the same as that found with the quaternary ammonium type germicide in this study, or ± 6.6 per cent. Thus, it would seem that the variation observed here is probably indicative of the range which may be expected with individual preparations of the three types of germicides studied when reasonably "clear-cut" readings are obtained.

The laboratory work sheets on these samples were practically free of so-called "wild plus" and "skip" readings, and it must be acknowledged that individual samples of quaternary ammonium germicides, synthetic phenol-pine

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oil-soap preparations and some high boiling cresylic acid-soap mixtures do behave badly on this score. Data on such products have been evaluated quite extensively. Coefficients of variation ranging from the values shown in Table 2 and 3 up to  $\pm$  20.0 per cent have been found based on the calculated phenol coefficients of the 10 minute killing dilutions reported by the technicians.

The work sheet data on all these products where the coefficient of variation was higher than  $\pm$  6.6 per cent has been carefully reviewed. When all questionable readings were thrown out, the coefficients of variation were in every instance reduced and in the majority of cases they were reduced below the  $\pm$  6.6 per cent level.

Another approach to this problem was that of (1) correcting all readings to assign a (+) plus value to every negative reading where a (+) plus value had been recorded at lower dilutions for the same time interval, and (2) correcting all readings to ignore those (+) plus readings at each time interval where two or more consecutive negative (-) minus readings were obtained at higher dilutions, and comparisons then made with respect to the coefficients of variation. The first of these corrections might well be considered as a correction to eliminate false negatives, and the second a correction to eliminate possible false positives. These are illustrated in Table 4.

The results of one of these comparative studies using data obtained with a synthetic phenol-soap-pine oil preparation are presented in Table 5.

Table 5 shows clearly that the correction of laboratory data where "wild plus" and "skip" readings are recorded to throw out (+) plus readings when they are followed by (-) minus readings at higher dilutions at the same time interval resulted in a coefficient of variation of  $\pm$  15.4 per cent, as

Table 2. Phenol Coefficient (P.C.) Data on Cresylic Acid-Soap-Neutral Coal Tar Oil, Type Germicide.

Operator		Operator #	1		Operator #	2
Det. Number	P.C.	Devia- tion	(d²)	P.C.	Devia- tion	(d2)
1	5.0	.2	.04	5.0	.2	.04
2	4.7	.1	.01	5.0	.2	.04
3	5.0	.2	.04	4.7	.1	.01
4	4.4	.4	.16	4.4	.4	.16
5	4.1	.7	.49	4.7	.1	.01
6	5.0	.2	.04	3.9	.9	.81
7	3.9	.9	.81	5.0	.2	.04
8	4.4	.4	.16	4.4	.4	.16
9	5.0	.2	.04	4.4	.4	.16
10	5.2	.4	.16	5.0	.2	.04
11	5.0	.2	.04	5.5	.7	.49
12	5.0	.2	.04	5.2	.4	.16
13	5.2	.4	.16	5.5	.7	.49
14	5.0	.2	.04	5.0	.2	.04
15	4.4	.4	.16	4.4	.4	.16
16	4.7	.1	.01	5.0	.2	.04
17	5.2	.4	.16	4.4	.4	.16
18	5.2	.4	.16	4.4	.4	.16
19	5.2	.4	.16	4.4	.4	.16
20	5.0	.2	.04	4.7	.1	.01
21	4.7	.1	.01	4.7	.1	.01
22	5.2	.4	.16	5.0	.2	.04
23	5.2	.4	.16	4.7	.1	.01
24	4.4	.4	.16	4.7	.1	.01
25	4.4	.4	.16	3.9	.9	.81
TOTAL	120.5	8.3	3.65	118.3	8.5	4.25

Av. or Mean Coef. = 
$$120.5 + 118.3 = \frac{238.8}{50} = 4.8$$

Stand. Deviation = 
$$8.3 + 8.5 = \frac{16.8}{50} = \pm 0.3$$

P.E. of a Single Determination = 0.6745 
$$\sqrt{\frac{\Sigma(d^2)}{n-1}}$$
 = 0.27

P.E. of the Mean = 0.6745 
$$\sqrt{\frac{\Sigma(d^2)}{n(n-1)}}$$
 = 0.04

95 Per Cent Coef. Limits = Mean Value  $\pm 2 \times$  St. Dev. = 4.2 - 5.4

Coef. of Var. in Dep't Lab. as Per Cent = 6.3 Per Cent

Permissible Coef. of Variation Based on 95 Per Cent Confidence Limits = 12.6 Per Cent

compared with a coefficient of variation of  $\pm$  6.2 per cent when the same data were corrected to eliminate all (–) minus readings at each time interval where a (+) plus-reading had been recorded at a lower dilution.

When such data are considered along with information of the type listed in Tables 1, 2, and 3, it becomes quite clear that all (–) minus readings recorded at each time interval for dilutions higher than a (+) plus reading at the same interval are in all probability false readings due to exposed culture sampling error.

#### Discussion and Summary

The information developed in these studies suggested that within one laboratory a coefficient of variation of  $\pm$  6.0 per cent can be considered normal for the present A.O.A.C. Phenol Coefficient Method. This indicates that a  $\pm$  12.0 per cent variation can be permitted based on 95 per cent, confidence limits. In terms of regulatory enforcement this would mean that a ± 12 per cent tolerance for a label phenol coefficient claim would have to be acknowledged. In terms of a manufacturer's labeling policy, this would indicate that a maxi-



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Table 3. Phonol Coefficient (P.C.) Data on Synthetic Phonol-Solvent-Soap, Type Germicide.

			, ,			
		Operator #	1		Operator #	2
Det. Number	P.C.	Devia- tion	(d²)	P.C.	Devia- tion	(d <sup>2</sup> )
1	5.3	.3	.09	- Chrys. F.	-	
2	5.9	.3	.09	5.2	.4	.16
2	5.9	.3		5.3	.3	.09
3			.09	5.3	.3	.09
5	4.7	.9	.81	5.9	.3	.09
6	5.3	.3	.09	5.9	.3	.09
	5.9	.3	.09	5.9	.3	.09
7	5.3	.3	.09	5.9	.3	.09
8	5.9	.3	.09	5.9	.3	.09
9	5.9	.3	.09	5.9	.3	.09
10	5.9	.3	.09	5.9	.3	.09
M	5.3	.3	.09	5.3	.3	.09
1.2	5.9	.3	.09	5.9	.3	.09
13	5.9	.3	.09	5.9	.3	.09
1-4	5.9	.3	.09	5.9	.3	.09
15	5.9	.3	.09	5.3	.3	.09
16	5.5	.1	.01	5.5	.1	.01
17	5.5	.1	.01	5.0	.6	.36
18	5.5	.1	.01	5.5	.1	.01
19	5.5	. 1	.01	5.5	.1	.01
.20	5.5	.1	.01	5.5	.1	.01
21	5.5	.1	.01	5.5	.1	.01
22	5.5	.1	.01	5.5	.1	.01
23	5.5	.1	.01	5.5	.1	.01
24	5.5	.1	.01	5.5	.1	.01
25	5.3	.3	.09	5.5	.1	.01
OTAL	139.7	6.3	2.25	139.9	6.1	1.87

Av. or Mean Coef. = 
$$139.7 + 139.9 = \frac{279.6}{50} = 5.6$$

Standard Deviation = 
$$6.3 + 6.1 = \frac{12.4}{50} = \pm 0.25$$

P.E. of a Single Determination = 0.6745 
$$\sqrt{\frac{\Sigma (d^2)}{n-1}} = 0.20$$

P.E. of the Mean = 0.6745 
$$\sqrt{\frac{\Sigma(d^2)}{n(n-1)}} = 0.03$$

95 Per Cent Confidence Limits = Mean Value ± St. Dev. = 5.1 - 6.1

Coef. of Variation in Dep't Lab. as Per Cent = 4.5 Per Cent

Permissible Coef, of Variation Based on 95 Per Cent Confidence Limits as Per Cent = 9.0 Per Cent mum claim which could be made with assurance that the consumer would receive a product possessing the activity daimed at all times should be a value 12 per cent less than the mean value established from a reasonable number of "clear-cut" determinations.

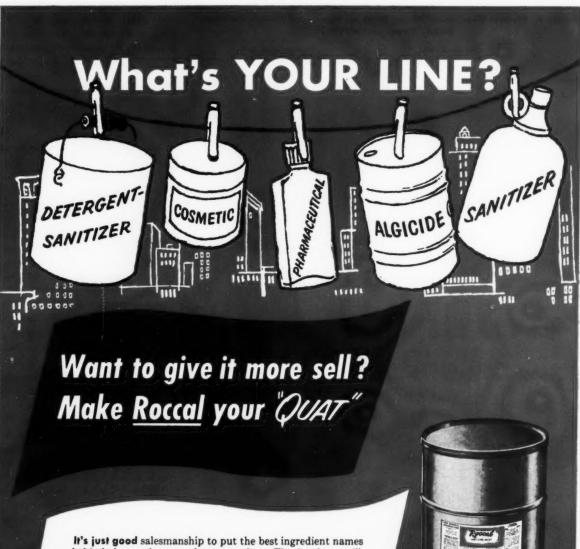
If a reasonable number of "clear-cut" results or determinations free of so-called "wild plus" or "skip" readings cannot be obtained in the method, this might indicate that no coefficient claim would be justified for the preparation in question or that the dilution range selected was too high. In the latter case, additional tests over a lower range of dilutions might reveal the level of activity above which false negative readings due to exposed culture sampling error is commonly encountered.

On the basis of the evidence available at the present time, it does not seem that characteristic coefficients of variation by this method can be assigned according to chemical type of germicide. This is contrary to existing published claims. Some differences have been noted between individual preparations within each chemical type of germicide studied, but additional information would be required to define the exact limits in each case. The ± 6.0 per cent figure selected herein would seem to be near the upper limit of this range with all types of chemical germicides for

(Turn to Page 107)

Table 4. Trial Corrections of Work Sheet Data Where "Wild Plus" and "Skip" Readings Were Recorded.

	Actu	ial Read	ling	Reading Corrected To Eliminate False Negatives			Reading Corrected To Elimin Possible False Positives			
	Exposure	Times-	-Minutes	Exposure	Times	-Minutes	Exposure	Times-	Minutes	
Dilution	5	10	15	5	10	15	5	10	15	
1-250	+			+		-				
1-270	-			+						
1-300		+	-	+	+					
1-320			+	+	+	+				
1-360				+	+	+				
1-400	+	-	-	+	+	+	+			
1-450	+	+	+	+	+	+	+	+	+	
Coef. Calcu-										
lation Based on 1-90 Control		None		270 90	= 3.9	0	40	$\frac{00}{0} = 4.4$	Į	



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## Role of Glycerine in Aerosols

By Samuel Prussin and H. R. Shepherd

Aerosol Techniques, Inc.

Bridgeport, Conn.

ECAUSE of its exceptional versatility, glycerine has been used widely in the formulation of various cosmetic. pharmaceutical and specialty item aerosols. Its chemical stability, aesthetic appeal, relatively low cost. and wide range of compatibility with other materials, make it a most valuable and, in some instances, an irreplaceable raw material. In foods glycerine is used as a humectant, a solvent for colors and flavors, and as a bodying agent with or without gelatin or other gums and plasticizers for edible lood coatings. Food processors should be interested in the following properties contributed by glycerine to pressure packaged foods:

- Modifying rheological properties:
- 2. Increasing body of product:
- 3. Providing lubricating effects:
- 4. Altering the solubility of
- gases;
  5. Increasing stability of emulsions:
- 6. Increasing solubility of flavors and colors in food products:
- 7. Contributing valuable preservative properties to the product.

The use of glycerine in foods has been discussed extensively in the past in reference to its use in imitation vanilla, butterscotch, and other flavors and in the production of coffee flavors. It is interesting to note that at this time, many food processors are seriously looking at pressurized toppings.

pressurized drop dispensing of liquid coffee and even pressurized pre-mixes for baking purposes.

Glycerine is extensively used in the formulation of liquid color preparations from certified dyes for addition to foods and beverages. It would appear sound to package the certified food colorings in pressurized packages under nitrogen with a drop dispenser. This type of packaging would eliminate the spillage, mess and normal breakage associated with glass bottles. Glycerine is used in such a wide variety of subjects that it would be impossible to cover all areas within the scope of this paper. Certain examples will be given wherein glycerine is used in aerosol formulations. These examples are indicative of the wide scope of the products using this functional humectant.

#### I. Aerosol Shave Cream

Commercially the most important foam product to be packaged in aerosol containers is shaving cream. Basically the conventional aerosol shave creams are very similar to the lather shaving cream packaged in collapsible tubes with the addition of suitable propellants to achieve an elegant and functional foam. Aerosol shaving creams of this type yield a pre-foamed lather, eliminating the use of a brush to accomplish this end. Aerosol shaving creams have the properties ex-





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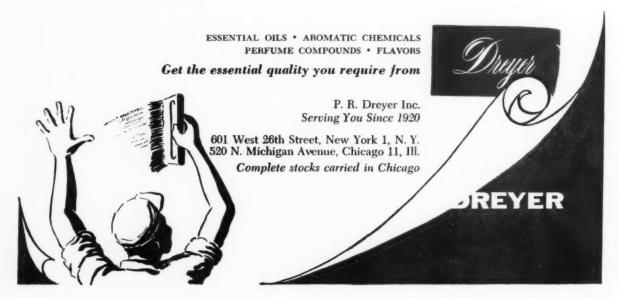
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pected of any other shaving cream, viz., good beard softening action, ability to retain moisture, pleasant scent, freedom from irritation, etc. Requisites for an acceptable aerosolized foam product should include the following points:

- Overrun, i.e., the increase in volume, through foaming, of a given amount of liquid;
- Residual contents, i.e., the amount of active material which remains in the container after the internal pressure has been completely dissipated;
- Foam strength, or inversely, the ease with which the foam can be spread (a balance between the "runniness" of the liquid and the unspreadable and nonwettable opposite);
- Foam stability, i.e., the ability of the foam to retain its original form for as long a period as may be required;
- Wettability, i.e., the ability of the foam to exhibit desirable surfaceactive properties.
   Foam stability in aerosol

shaving cream is particularly important since the expanded foam is spread over a large area in a fairly thin cross section. Unless stabilized, it will collapse and dry out, resulting in an unsatisfactory shave and consumer dissatisfaction with the product. Glycerine, because of its power to absorb and retain moisture, is the most widely used component in achieving foam stability. Other factors influencing its use in this product are lack of toxicity, its dermatological suitability, and its good color and odor. In addition, it imparts lubricity to the foam enabling the razor to glide over the face with a minimum of friction and further imparts an emollient, smooth afterfeel to the skin. Typical formulations for aerosol shaving cream are given below:

	A.	2.2
	Per	Per
	Cent	Cent
Glycerine	10.000	10.000
Triethanolamine	4.000	5.000
Stearic acid, triple		
pressed	4.500	4.000
Stripped coconut		
fatty acids	1.500	1.500
Perfume	0.375	0.375
Glyceryl monostearate	5.000	-
Myristic acid	-	2.500
Water	74.625	78.625
Above concentrate	93.000	93.000
Propellants-12/114		
(57/43)	7.000	7.000

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Spot checking weight of till of pressure package in loading plant.

Manufacturing instructions: Add water, triethanolamine, glycerine, mix and heat to 60°C. In separate steam heated fat kettle melt stearic acid, coconut fatty acids and myristic acid and heat to 62°C. Add melted fats to water phase with rapid stirring until all fats are emulsified. Reduce agitation, cool to 35°C and add perfume. The propellants are pressure filled. It is also interesting to note that the glycerine derivative. glyceryl monostearate, is widely used and highly regarded in various aerosol foam products.

#### II. Brushless Shave Cream

With increased activity focused on pressurized packages with inert propellants the possibility of dispensing a brushless shaving cream in a pressurized package may be a reality. Typical formulations of brushless shaving creams are given below:

	111
	Per
	Cent
Diglycol stearate	18.0
Sodium lauryl sulfate	3.0
Glycerine	8.0
Water	71.0
Preservative	qs.
Periume	q.s.
	IV
	Per
	Cent
Stearic acid	25.0
Cetyl alcohol	1.0
Isopropanolamine (or other	
equivalent alkali)	20
Glycerine	5.0
Water	67.0
Preservative	q.s.
Perfume	q.s.
Pressurized to 90-100 psig with	nitrogen

#### Formula III:

Manufacturing instructions: Add sodium lauryl sulfate, glycerine and preservative to water, heat to 60°C. Melt diglycol stearate and heat to 60°C and add to water. Cool with stirring to 35°C and add perfume.

Formula IV: Add isopropanolamine, gly-

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cerine, preservative to water and heat to 60°C. Melt stearic acid and cetyl alcohol in separate kettle and heat to 60°C. Add fats to water with rapid stirring; reduce stirring and cool to 35°C and add perfume. The above formulae can be considered the prototypes of brushless shaving creams but caution must be exercised in obtaining the correct viscosity since a product which is too viscous will cavitate, expelling the gas propellant prior to the product. It is important to note that the absorption of water from a shaving cream lowers the tensile strength of the hair while the formation of lather supports the hair shaft in a convenient cutting position and at the same time, acts as a protection against skin injury. The amount of water made available for this absorption process is largely a function of the glycerine present in the formulation.

#### III. Aerosol Hand Cream

The following formula is dispensed as a heavy creamy foam which spreads over the hands to make a water repellent protective foam.

	V	
	Per	
	Cent	
Myristic acid, pure	1.00	
Stearic acid, NF	4.00	
Cetyl alcohol, NF	.33	
Modified lanolin	33	Part A
Isopropyl myristate	1.17	
Triethanolamine	1.17	
Silicone oil "DC 555"*		
fluid	2.00	
Glycerine	1.50	
Polyvinylpyrrolidone		
(PVP)	17	Part B
Water	87.83	
Perfume oil		
GDV-8395-2	50	Part C
Freon-12"/"Freon-		
114"** 40/60	11.10	Part D

Manufacturing instructions: Heat Parts A and B separately to 160°F to melt and dissolve. Add Part B to Part A while stirring. Add Part C when cool. Pressure fill Part D (10 parts propellant to



Prior to receiving their protective overcaps these cans of pressure packaged toothpaste are given a final examination and check by woman standing second from left. From this point cans travel to packaging area where they are placed in cartons ready for shipment.

90 parts of concentrate).

U. S. Patent 2,524,590 and U.S. Patent 2,655,480 assigned to Carter Products, Inc., New York, should be investigated before proceeding with any commercial manufacture of foam aerosols based on refrigerant type of propellants.

#### IV. Hair Dressing

Hair grooming emulsions are currently being introduced with considerable success. A typical formulation of such a product is given below:

	VI
	Per
	Cent
Glycerine	2.025
Triethanolamine	3.240
Stripped coconut latty acids	0.607
Stearic acid, tripled-pressed	1.823
Silicone 96-100	0.405
Water	40.100
Isopropyl myristate	2.700
Mineral oil	49 1100
Perfume	q.s
Pressurized to 90-100 psig. with	nitrogen.

The above formulation is an oil in water emulsion with good hair holding properties and providing an excellent sheen.

Manufacturing instructions: Add glycerine, triethanolamine to water; heat to 60°C. In separate far kettle add mineral oil, isopropyl myristate, coconut fatty acids and stearic acid. Dissolve fatty acids in oil phase and heat to 60°C. Add the oil phase to the water phase with rapid stirring until oil is emulsified. Add silicone oil and cool to 35°C. With stirring, add perfume.

#### V. Aerosol Deodorant

The aerosol deodorant sprays have achieved some success because of their effective and convenient method of application. Such products are easy to handle and apply, can be sprayed on rather dry and offer other advantages of this method of dispensing. The active deodorant principle may be chlorinated phenol derivatives, such as hexachlorophene or bithionol, or a quaternary ammonium compound. A typical formulation for such a product follows:

	Per
	Cen
Hyamine, 10X or 1622 (Rohm & Haas) Perfume oil Ethyl alcohol anhydrous, 39C	1.00 0.25 98.25
Glycerine	0.50
Above concentrate Propellant-114	20.00 80.00

Manufacturing instructions: Dissolve glycerine, perfume oil and

<sup>\*</sup> Registered trade name of Dow Corning Corp., Midland, Mich.

<sup>\*\*</sup> Registered trade name of E. I. du Pont de Nemours & Co., Wilmington, Del.



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A radical departure from previous concoctions, meta Delphene consists of only one chemical, providing formulators a simple, economical method of preparing their finished products. Meta Delphene is greaseless, odorless, nonirritating to even the most sensitive skins. Extremely convenient for aerosol packaging, meta Delphene also lends itself well to lotions, sticks, and specialty applications such as impregnated tissues.



## ...WHATEVER

Meta Delphene's unique property of long-lasting protection against mosquitoes, chiggers, biting flies, ticks, and other annoying insects makes outdoor activities more pleasurable. Freedom from insect attacks can now be measured by hours instead of minutes. Women like meta Delphene repellents because of pleasant feel of the preparations which dry quickly to an invisible film. And meta Delphene protection lasts and lasts over long periods of time.



#### ... meta DELPHENE

Hailed by fishermen, hunters, and other sportsmen, meta Delphene repellents are praised as "the first really effective materials that keep bugs from biting." Active outdoorsmen like meta Delphene because of its great resistance to wiping, rinsing, and perspiration. The new repellents make it worthwhile to treat sports clothing for protection from pests which may cling to gear and bite through thin shirts.

Agricultural Chemicals Division, Naval Stores Department



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## ...KEEPS INSECTS AWAY

But most important, meta Delphene repellents have found quick consumer acceptance because they "really work." Put meta Delphene to work for you. Specify it in repellent formulations.



ND58-

"Hyamine"\* in ethyl alcohol anhydrous. Chill concentrate to 0 to -10°F. Add propellant at 0 to -10°F. The glycerine serves as a plasticizer for the quaternary ammonium compound preventing its crystallization in the valve system and minimizing the possibility of flaking after application. Although the glycerine exists in a minor percentage in this formulation, its effects as a plasticizing and non-drying agent are profound considering that the formulation possesses approximately 99 per cent volatiles. The glycerine also ameliorates the harshness contributed by the alcohol.

#### VI. Toothpaste

Glycerine plays an important role in the formulation of pressure packaged toothpaste. A toothpaste may be patterned after the following basic formulation:

	* ***
	Per
	Cent
Dicalcium phosphate	
dental grade	45.00
Glycerine	35.00
Thickening agent	1.00
Sweetening agent	0.1-0.2
Dental detergent	2.00
Flavor	1.00
Water	15 80
Pressurized to 90-100 paig	with nitro-
gen.	

Manufacturing instructions:
Disperse thickening agent in glycerine. Add water with dissolved sweetening agent to glycerine mixture and stir until dissolved. Add dicalcium phosphate with milling to blend into a smooth paste. Add flavor and detergent. Apply vacuum to paste until all the air is removed.

The uses and advantages of glycerine in dentrifices have been known for many years. Briefly, glycerine has been used for the desirable body imparted to the bulk, to prevent the toothpaste from drying out and to provide an excellent mouth feel for the product. The non-crystallizable nature of glycerine is carried through to the finished product in a well-formu-

lated toothpaste. The highly desirable humectancy contributed by glycerine is very important in pressurized toothpaste since drying out of the extruded paste in the dispensing nozzle reduces the flow rate or causes the valve to malfunction. The projected production of toothpaste in pressurized containers in 1958 is estimated to be in the order of 20 million units. The continued success of pressurized toothpaste is virtually assured by the commercial emergence of these pressurized containers by virtually every leading toothpaste marketer in the country.

Other products which have achieved commercial significance using glycerine are sunscreen foams and sprays and cosmetic creams and lotions, etc. In the medicinal and pharmaceutical departments, such products as cough mixtures. liquid multivitamin preparations for pediatric and geriatric usage and liquid mouth washes, all compounded with glycerine, will find a very lucrative market if sold in commercially available, inert gas propelled packages. The purposes of glycerine in the above product types are well known to those versed in the art of compounding medicine and pharmaceutical items. The use of glycerine in these pressurized products becomes quite important since its demulcent, non-crystallizable, solvent, non-toxic, bodying and pleasant-tasting properties make it virtually irreplaceable as a multifunctional vehicle.

In addition to use in currently marketed aerosol products, glycerine will assume added significance with the new markets opening in the pressurized packaging of foods, drugs and cosmetics.

#### **Toiletries in Supermarkets**

More than 41 per cent of women's toiletries purchases are made in supermarkets, according to a recent nationwide "Drug and Toiletries Purchase Poll," sponsored by McCall's magazine. 48.4 per cent of the women surveyed pre-

ferred to buy their toiletries in drug stores.

The poll also revealed that 76.1 per cent of women use a shopping list for most of their buying, while 21.3 per cent use a list, but make the majority of their buying decisions in the store. In 11 out of 45 products or product groups studied in the toiletry category, impulse buying accounted for 30 to 50 per cent of sales. The results of the study also showed that close to 90 per cent of the toiletry purchases were made by women.

The statistics produced by the poll are based upon the actual purchases of drugs and toiletries made, during an entire month, by 1,197 national panel families selected by the Home Testing Institute. Included in the survey were 10 general toiletry categories and 45 product groups. The diaries kept by the participating families reported on 20,074 purchases of 27,468 units with a total dollar value of \$19,348.64.

#### A. Hass Heads Dryomatic

Anthony Hass has been elected president of Dryomatic Corp., Alexandria, Va., manufacturer of chemical dehumidifiers for industrial and household use, it was announced recently. He has been with the firm since 1950 as vice-president and sales manager. Previously he had been employed as division manager of Atlantic Research Corp., Alexandria, Va., and as general manager of Kilgore Chemicals, Inc., Washington, D. C.

#### **Hooker Expands Oldbury**

Hooker Chemical Corp., Niagara Falls, N. Y., announced recently authorization of an additional million dollar expansion of "Oldbury" brand sodium chlorate production facilities at Columbus, Miss. Scheduled for completion in April 1959, this addition will bring Hooker's total investment at Columbus to approximately \$7,000,000. Besides sodium chlorate, the Columbus plant makes phosphorus pentasulfide, used in phosphorous insecticides.

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<sup>\*</sup>Registered trade name Rohn & Haas Co., Philadelphia.

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## Carnauba Wax Analysis

By C. S. Treacy and A. S. Cascione

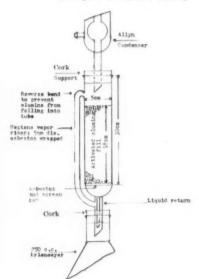
M. Argueso & Co., Mamaroneck, N. Y.

O shorten the time required for the determination of hydrocarbons in carnauba wax as described in Method D 1342-54T of the American Society for Testing Materials, the laboratory of M. Argueso & Co. has designed a special extraction tube which reduces the time of elution to 50 minutes and uses a total of roughly 300 mils of heptane. This method has proven quite accurate in use, checks being often obtained within one tenth of one per cent. The design is an outgrowth of a method which probably originated in the laboratories of S. C. Johnson & Son, Inc., at Racine, Wisconsin.

Along with this tube design, we are also using a simplified method of resin extraction which

Figure 1. Chromatograph adsorption apparatus.

M. Argueso & Co., Inc., drawing



is felt to give more accurate results than the one now in common use. These methods are made public in the hope that they will be of assistance to wax users.

#### **Determining Hydrocarbon**

The following materials are needed:

1. Extraction tube as shown in Figure 1. This may be fabricated by any glassblower.

- 2. 8 inch Allyn condenser. 3. 250 c.c. Erlenmeyer flask.
- Small dental burner.
- Ringstand and clamps with nichrome gauze for use between Erlenmever flask and burner.
- 6. Two inch wide asbestos tape and 40 mesh bronze or brass mesh. The pad to retain the activated alumina is prepared by cutting two 2 inch circles of asbestos mesh between which is stapled a circle of bronze mesh about 1½ inches in diameter. Use several staples. Boil the completed pad in

heptane as a general precaution, then push down to bottom of tube as shown. The mesh serves to keep the pad flat while the asbestos overlap acts as a seal.

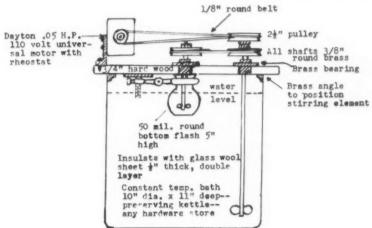
#### Operation

When operated as directed we believe that the results obtained are quite as accurate as those found by the use of A.S.T.M. method, D1312-51T as amended, and that checks of .1 per cent and better may be obtained. This short method has now been in operation for many months.

The tube is first charged with the normal amount of dried, activated alumina, as per the directions in A.S.T.M. D-1342-54T, pouring it in slowly and shaking it down. Boiling heptane is now quickly poured into the tube until it starts to run through.

Four grams of wax, dissolved just previously in 75 c.c. of (Turn to Page 103)

Figure 2 Apparatus for determining acetone soluble fraction in carnauba wax M. Argueso & Co., Inc. drawing



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## **Urge Greater Cleanliness Efforts to Combat Staphylococcal Disease**

NATIONAL conference to combat hospital acquired staphylococcal disease was held Sept 15-17 at the Fulton County Academy of Medicine, Atlanta, Ga., under the joint sponsorship of the U.S. Public Health Service-Communicable Disease Center and the National Academy of Science-National Research Council. Fiftynine professional groups were represented. L. E. Burney, M.D., Surgeon General, Public Health Service, U.S. Department of Health, Education and Welfare, traced the emergence of the twin problem of antimicrobial resistance and staphylococcal infections in hospitals. He also cited the growing realization not only of the nation-wide prevalence of resistant strains in hospital populations, but the spread of such hospital acquired infections into local communities.

For the current fiscal year, Congress appropriated \$325,000 to the Public Health Service for the Communicable Disease Center's laboratory services, training, investigations, and epidemic aid in staphylococcal disease, and added \$1,000,000 to the research appropirations for the expansion of staphylococcal research through National Institute of Health research grants, the Surgeon General said.

American Hospital Association's committee dealing with this subject sees three major tasks to be accomplished for nation wide control of staphylococcal disease: dissemination of existing knowledge among the medical and health professions, development of a practical plan of campaign and stimulation of state and local action, possibly by a national conference; a complete review and careful expansion of staphylococcal research, an area in which the National Institute of Health has been active; and, finally, expansion of

services to assist hospitals in preventing and controlling staphylococcal disease. This third aspect comes under jurisdiction of the Communicable Disease Center which now carries the responsibility for the National Reference Center for staphylococcus page typing.

Outlining the purpose of the conference Dr. Burney said: "... I expect from this conference as clear a delineation as possible of the specific measures upon which the professions concerned are in agreement for a concerted attack on staphylococcal disease ... I would also expect this conference to point out those areas which require additional investigations."

#### Critical Areas

Seven critical areas supply the key to control of hospitalacquired staphylococcal disease according to Robert J. Anderson. M.D., chief, Communicable Disease Center, USPHS: establishment of control of hospital infections through infection committees or appropriate techniques: establishment of mechanisms for interhospital communication, for communications between hospitals and the health department; appropriate application of the concept of strain specificity and the provision of adequate laboratory service to implement it; a serious appraisal of the present usage of antibiotics and the adoption of acceptable standards of discriminate and judicious use: recommendations concerning the detection, placement and therapy of the carriers; sound guide lines concerning the importance of individual environment factors in the transmission of the disease; and the recognition of the serious implications of uncontrolled hospital infections to the health of the community and cooperative community

planning to establish adequate control.

R. E. O. Williams, M.D., director, Streptococcus, Staphylococcus and Air Hygiene Laboratory, Public Health Laboratory Service, London, England, presented a report on work carried out on staphylococcal hospital infection in Great Britain during the last decade.

In a discussion of air hygiene in the operating room Dr. Williams said that operating rooms built within the structure of the hospital need to be ventilated under positive pressure, so as to exclude contaminated air from hospital wards and corridors. Rate of air change must be sufficient to guarantee that any contamination liberated at one operation is cleared before the next one is started. Activity of the staff should avoid all unnecessary movement. This was found to reduce the count as much as improved ventilation, by reducing dispersal of staphylococci from contaminated clothing of nasal and skin carriers of staphylococcus. These observations. Dr. Williams pointed out, stress the importance of a rule that all persons working in the operating rooms should change all their clothing. Blankets used to cover the patient on his way to the operation room may carry contamination from the ward. He should be covered with sterilized material.

Dr. Williams dealt with the problems of dangerous carriers in the operating room and the wards and then turned to the spread of infection in maternity wards. Among measures recommended in the latter is daily bathing with soap containing hexachlorophene germicide.

One of the sources of environmental contamination in wards is the woolen blanket. Dust and fluff is readily dispersed from its surface. Generally, it is laundered at too low a temperature to kill staphylococci. Also blankets are laundered as infrequently as possible to prolong their use.

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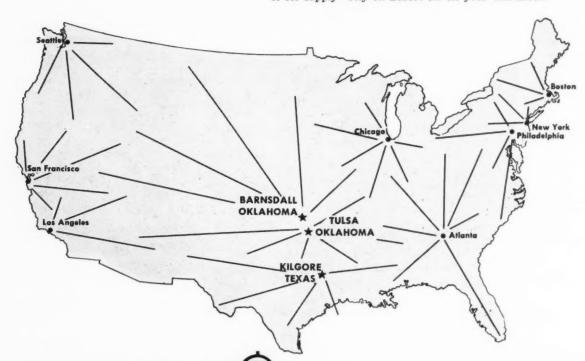
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Blankets can be disinfected during laundering by the use of a nonionic detergent for detergency and of a cationic for disinfection, a procedure which has found wide acceptance. Investigations are being carried on into other practical methods for the disinfection of blankets, Dr. Williams, said. Cellular cotton and other materials which can be boiled are recommended for use as blankets. Disinfection of curtains is also considered desirable.

Summarizing, Dr. Williams first dealt with the microbiological and medical aspects of the problem. He then said: "Of general preventive measures we should lay the greatest stress on aseptic handling of the patients. Every approach to the patient-by all members of the staff-must be informed by a realization of the infectiousness of staphylococcal infection. Everything taken from the infected patient must be sterilized; and all material used for the treatment of all patients must not only be sterilized but be kept sterile right up to the time that it is used. The provision of proper facilities and equipment is an essential contribution from the administrators; the rapid and detailed recognition of the infecting bacteria is the duty of the laboratory; and there are no gadgets and no drugs or vapors that can relieve the people who handle the patients of their perennial responsibility for handling them aseptically.

#### Surgical Techniques

Chester W. Howe, M.D., associate professor of surgery, Boston University School of Medicine, spoke on "Staphylococcal Disease on Surgical Services." Main reliance for the prevention of the disease lies in the control of cross-infection, Dr. Howe said. Certain fundamental principles which have served the surgeon well in the past must be revived and strictly adhered to especially where the use of prophylactic antibiotics has resulted in a false sense of security and

relaxation of aseptic techniques. First defense is meticulous surgical techniques, he said.

Prevention of contamination and cross contamination by rigid aseptic and antiseptic methods constitutes an almost equally important line of defense, according to Dr. Howe. Surgeons, nurses, and hospital personnel must share the burden of observing the rules. It presupposes, he said, thorough old-fashioned hospital cleanliness in all disciplines.

Regarding environmental precautions Dr. Howe stressed the need for more study of the effectiveness of such techniques as blanket sterilization, oiling of floors and bedding and propylene and glycol vapors. He urged applying common sense to housekeeping aspects of the problem. Dr. Howe reported a downward trend of staphylococcal infections in his hospital since 1954 and said that this may be due to the efforts to prevent cross infection and to reduce the carrier state.

#### Good Housekeeping

Infection in newborn nurseries can be reduced by eliminating carriers, by good housekeeping, and by good hygienic practices including hand washing, control of dust and lint, correct handling of garments and surgical dressings, and deportment of personnel, according to Thomas E. Shaffer, M.D., Professor of Pediatrics and Preventive Medicine, Ohio State University College of Medicine, Columbus.

Staphylococcal infections acquired in hospital nurseries present a grave community problem, according to Frederick H. Wentworth, M.D., Ohio Department of Health, Columbus. He called for an organized community effort to provide epidemiologic and laboratory services, the prompt reporting and analysis of incidence data, and surveys of hospital-associated morbidity.

Responsibility for dealing with the problem of hospital

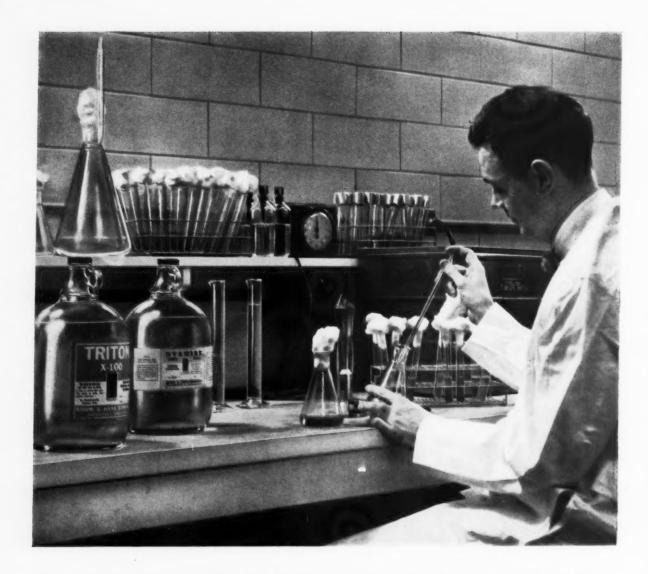
acquired staphylococcal disease rests with the hospital administrator, according to Dean A. Clark, M.D., General Director of Massachusetts General Hospital, Boston. To assist him he needs a committee composed of members of the medical staff, nursing service, housekeeping. laboratories, etc. He must be mindful of the community aspect of the problem and the fact that frequently such infections become apparent in patients only after discharge. The administrator must see that action is taken. Dr. Clark urgently advocated training films for person-

In addition to the papers mentioned above a number of other subjects were presented. Three working panels were in session during the meeting. One of the panelists was Dr. E. G. Klarmann, vice-president and manager of technical services, Lehn & Fink Products Corp., and official delegate of the Chemical Specialties Manufacturers Association. Findings of the groups on the specific topics allotted to them were reported at the end of the general meeting by their respective chairmen. All papers and reports will be published in full in the proceedings of the conference scheduled to appear within the next few weeks.

#### P&G Records History

A 47-page booklet entitled "The Moon and Stars" traces the 121-year history of Procter & Gamble Co., Cincinnati, O., and emphasizes the role of research projects in the company's operations. According to the booklet, P&G initiated one of the first industrial research programs in America in 1887 with a staff of three. Today, one out of every ten P&G employees is engaged in research projects.

The booklet, written by Alfred Lief, business historian, also notes the company's pioneering in the field of labor relations when, in 1886, it gave employees every Saturday afternoon off without loss of pay and adopted a profit-sharing plan the following year.



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## Soil Studies Using Radioactive Tracers Discussed During ACS 134th Meeting

THE role of CMC in cotton detergency, various water-soluble polymers for use in detergents, polishes, and other specialty products, new analytical procedures to determine pesticidal residues, and a history of 160 year old Dodge & Olcott Inc., were among 1,544 subjects presented to more than 14,000 chemists at the 134th national meeting of the American Chemical Society held in Chicago, Sept. 7 to 12.

Radioactive tracer techniques were used to study the role of sodium carboxymethyl cellulose in the prevention of soil redeposition in the laundering of cotton. The studies were carried out at the Nucleonics Laboratory of Wyandotte Chemicals Corp., Wyandotte, Mich., and reported in a paper by J. W. Hensley and C. G. Inks. Tests showed that adsorption of CMC on cotton cloth is a definite anti-redeposition factor in the laundering process.

CMC was tagged with radioactive carbon atoms. First it became apparent that adsorption of CMC by cotton from dilute aqueous solutions is insignificant. However, in the presence of electrolytes adsorption becomes significant, apparently due to some interaction between CMC and cations. This effect of cations becomes greater with increase in cation concentration. In the presence of excess cations the rate of CMC adsorption by cotton increases with a rise in temperature, but equilibrium adsorption values apparently are not dependent on temperature.

Anionic surfactants and alkaline builders appear to have no measurable effect on adsorption of CMC by cotton apart from that due to sodium ion content. Variations in pH within the alkaline range apparently do not influence adsorption.

Limited studies with wool, orlon, and acetate rayon showed little or no adsorption of CMC in the presence of excess cations, whereas measurable adsorption was demonstrated with nylon and viscose rayon. Presence of alkylaryl sulfonates tends to prevent adsorption by these fibers.

Properties and uses of sodium carboxymethyl cellulose were presented by J. B. Batdorf of Hercules Powder Co., Wilmington, Del. Ability of CMC to suspend solids in and control viscosity of aqueous solutions and to form strong tough films has secured a wide range of markets for this versatile synthetic gum. Detergents, paints, cosmetics and other specialties are among the consuming industries.

Mr. Batdorf's paper was part of a symposium on the growing markets for synthetic water-soluble resins and gums, sponsored by the Division of Chemical Marketing and Economics. First report of this session entitled "Polyvinyl Alcohol, a Versatile Synthetic Polymer" was presented by C. P. Argana, Electrochemicals Department of E. I. du Pont de Nemours & Co., Wilmington, Del.

PVA is available in different molecular weights and degrees of hydrolysis. These variations will affect water sensitivity, solubility, and tensile strength of the end product. Excellent film forming properties: resistance to oil, grease, and solvents; and good gas barrier properties are claimed for PVA resins. In addition, polyvinyl alcohol exhibits what is described as excellent adhesive and dispersing characteristics. The above properties fit PVA for use in cast films. textile chemical specialties, and as a dispersing agent in emulsion polymerization.

Markets, actual and potential, for "Polyox" water-soluble resins were discussed in a paper by Lester D. Berger, Jr., and M. T. Ivision, Union Carbide Chemicals Co., New York, Described as tough, extensible, highly crystalline thermoplastic resins, these compounds are suitable for use in water-soluble films, detergents, various cosmetic products, and a number of industrial applications.

Water-soluble polymers in (Turn to Page 184)

#### CARNAUBA TEST

(From Page 97)

boiling heptane, are now poured slowly into the top of the tube which has been fitted through a bored cork into the Erlenmeyer. The beaker in which the carnauba was dissolved is flushed out with another 25 c.c. of boiling heptane. This, also, is poured through the alumina. When all has run through and the condenser has been put in place and all clamps tightened, the dental burner is lit and placed under the gauze supporting the Erlenmeyer. The flame is so adjusted that the condensate returning from the Allyn condenser flows back at about the same rate called for by the A.S.T.M. method. The condensate should return in a series of drops which fall so rapidly that they form an almost solid stream. About 100 c.c. of heptane and the extracted hydrocarbon will now be the working volume in the Erlenmeyer. Reflux for 45 minutes. Now pour the heptane and hydrocarbon dissolved in it into a weighted Pyrex dish, rinse Erlenmeyer with a little hot heptane and add to that in the Pyrex dish. Evaporate off the heptane and weigh the dish, following the A.S.T.M. directions. The whole analysis can be finished in a little over an hour at a great saving in time and heptane consumed.

#### **Determining Resin Fraction**

This method relies on the leaching out of the resin by cold acetone at 15°C from a finely ground sample of carnauba wax. The leaching is conducted with rapid stirring until equilibrium has



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been established. This requires two hours; further leaching up to three hours showing no increase. An aliquot portion of the cold slurry is then rapidly filtered through an ordinary folded paper filter and evaporated to dryness.

Since the method requires no washing out of dissolved resin from a wax slurry, with consequent possible solution of further wax constituents, it is felt to be more accurate than other methods now in use where a given weight of wax is extracted after melting and pouring into acetone. Furthermore, it requires a minimum of the operator's time and attention, as the only necessary action on the part of the operator is the addition of a little ice to the water bath if the temperature starts to rise. As the volume of the water bath is large, the change in temperature is slow.

Method: Grind wax in a "Waring Blendor" and sieve through 40 mesh screen. Weigh out 15 grams of the sieved material and place in flask with 150 c.c. of 15°C acetone. Clamp top of flask against wood to act as an air seal or interpose a soft rubber gasket. Stir for two hours with bath at 15°C ± 0.5° Remove and filter off 100 c.c. through a folded filter. Evaporate acetone off on hot plate and weigh residue. Weight x 100=€ Resin.

10

The speed of the motor may be controlled by use of a foot operated rheostat by fixing a simple screw clamp to tighten treadle down to most suitable position. The speed of the stirrers should be as rapid as is consistent with smooth operation.

#### **CSC CHEMICALS FOR INDUSTRY**

#### **ALCOHOLS**

Methanol Butanol Ethyl Alcohol

#### AMINES AND AMMONIA

Ammonia, Anhydrous and Aqua Ammonium Nitrate, Solid and 83% Sol. Methylamines Benzyltrimethylammonium Chloride Hydroxyethyltrimethylammoniumbicarbonate

#### **ESTERS**

Amyl Acetate Butyl Acetate
Butyl Lactate Butyl Stearate
Dibutyl Phthalate Ethyl Acetate
Tributyl Phosphate

#### **NITROPARAFFINS**

Nitroethane 2-Nitropropane
Nitromethane 1-Nitropropane
Alkaterges Diamines
Aminohydroxy Compounds
Nitrohydroxy Compounds
Chloronitroparaffins

#### PHARMACEUTICALS, BULK

Bacitracin Cycloserine Riboflavin, U.S.P. and U.S.P., R.S.

#### OTHER CHEMICALS

Acetone Formaldehyde Pentaerythritol

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#### **Nuclear Detergents**

(From Page 46)

This delayed chain branching process is responsible for the ability of the reaction to perpetuate itself in the absence of radiation providing it has been irradiated long enough to build up a sufficient concentration of RSO<sub>2</sub>O<sub>2</sub>H. The concentration of RSO<sub>2</sub>O<sub>2</sub>H which is required will depend upon the temperature and upon the rate at which free radical chains are being terminated in the reaction system. If the concentration of RSO<sub>2</sub>O<sub>2</sub>H continues to increase, an explosion should result. The branched chain reaction is self-limiting, however, since it is also producing water which can participate in a reaction which leads to the reduction of RSO<sub>2</sub>O<sub>2</sub>H with the formation of sulfonic and sulfuric acid.

This equation is not meant to represent a termolecular reaction but rather to describe the over-all result of a series of unspecified reaction steps. Its validity is supported by the data in Table VI which show that the conversion rates are substantially reduced when liquid water is added at the beginning of the reaction.

If each water molecule produced in reaction (7) were to participate in reaction (8) a 2:1 ratio of RSO3H to HSO, should result from this process. In experiments using initially anhydrous reactants this ratio has usually proved close to 3:1. This probably means that either all the water is not available for the reaction (e.g., it complexes as a hydrate of H,SO,) or an appreciable concentration of water must be built up before the rate of reduction of RSO,O,H can approach that of its decomposition.

Mechanisms for the photochemical sulfoxidation reaction have been proposed by Topchiev<sup>(5)</sup> and by Graf<sup>(4)</sup>. Their interpretations were influenced strongly by the fact that they did not observe any appreciable chain length for the reaction. Topchiev, in fact, appears to dispute the concept that photochemical sulfoxidation is a chain process.

It would appear reasonable to expect that the long chains which we observe in the gamma ray



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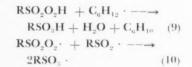
initiated sulfoxidation reaction would also be present when the reaction is initiated using ultraviolet light. If this is true, it would indicate that investigators of the photochemical reaction may have overestimated the rate at which chain initiators were being formed. This could be the case, since there has been much uncertainty regarding the mechanism by which chain

initiators could be formed through the action of ultraviolet light upon paraffins, SO<sub>2</sub>, or O<sub>2</sub>. It could be possible that the conversions noted for the photochemical sulfoxidation reaction were due to absorption of ultraviolet light by impurities in the system to produce very long reaction chains in very low concentration. For example, if mercury had been allowed to come

INDUSTRIAL WAXES

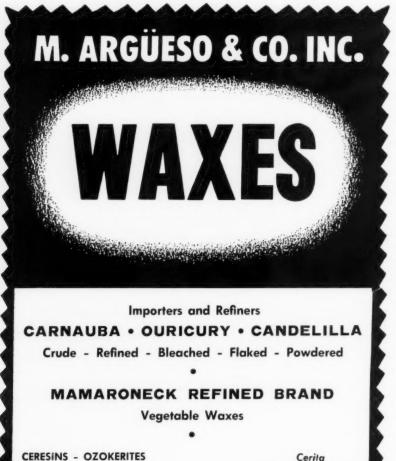
in contact with any of the reactants, initiators may have been formed by photosensitization.

With the above assumption, the mechanism proposed here is satisfactory to account for the observations of all previous investigators of the photochemical sulfoxidation reaction. These reaction steps have all been included by Graf in his mechanism for the sulfoxidation of cyclohexane but he did not feel that they were sufficient to account for his observed excess of sulfonic over sulfuric acid. He accordingly proposed the following two additional steps.



These steps do not appear necessary to account for the observed sulfonic/sulfuric acid ratios. The ability of the sulfoxidation to sustain itself when irradiation is terminated signifies that reactions (5) through (7), which also produce sulfonic acid and water, are contributing sufficiently to explain the observed results. In the sulfoxidation of normal paraffins (rather than cyclohexane) Topchiev did not find olefins in his products so that a general mechanism cannot include step (9). In view of the long chain lengths which we observe, it appears improbable that much product could form via reaction (10).

Topchiev has proposed a molecular mechanism based on the formation of activated SO<sub>2</sub> and O<sub>2</sub> molecules rather than free radicals. Sulfonic acid is produced by oxidation of sulfinic acid which is formed as an intermediate. The water necessary to form sulfuric acid is carried in as moisture in his reactant—gases. Topchiev's approach was probably based upon the fact that previous investigators of the photochemical sulfoxidation had been unable to propose a satisfactory initiation step for a free



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radical process. We feel that the chain reaction mechanism proposed in this paper is satisfactory for explaining both the gamma ray and ultraviolet initiated sulfoxidation reactions on a reasonable basis.

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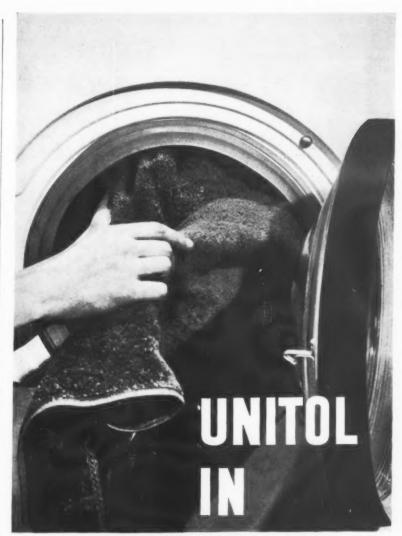
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#### Disinfectant Testing

(From Page 85)

which phenol coefficient claims are currently accepted.

A critical study of the data listed in Tables 1, 2, and 3 will reveal that the number of individual determinations falling outside the apparent 95 per cent confidence limits is slightly in excess of the five per cent which would be expected assuming a normal distribution curve. It would be neces-



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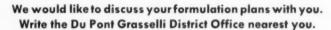
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- When Methoxychlor is combined with pyrethrins and piperonyl butoxide, the result is fast knockdown and high kill!
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- Methoxychlor, when added to synergised pyrethrins, extends activity against garden insects.
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sary to increase the number of determinations in each case to a very large number before any conclusion could be reached relative to the significance of this fact.

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Table 5. Possible Phenol Coefficient Readings on Synthetic Phenol-Soap-Pine Oil Germicide where 7 of the 15 Determinations Showed "Wild Plus" or "Skip" Readings.

Determinations Number	All readings corrected to eliminate possible false positives		All readings corrected to eliminate possible false negatives	
1				
2		4.7		3.6
2 3		4.7		3.6
4		4.4		3.3
4 5		4.4		3.3
6		4.4		3.3
6 7		4.0		3.0
8		4.0		3.0
9		3.8		3.0
10		3.6		3.0
11		3.3		3.0
12		3.0		3.0
13		3.0		3.0
14		3.0		2.8
15		2.8		2.8
lv. or Mean				
Coef. Values		3.9		3.2
Standard				
Deviation	+	0.6	*	0.2
oefficient				
f Variation				
s %	+	15.5%	+	6.2%

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Virtually every round, square, oval or oblong shape of "specialty" metal container, handsomely decorated by modern color lithography, is produced by Olive Can Company. The three shown above are typical examples.

A partial view of one of Olive Can Company's high-speed automated production lines. An important feature of each line is the short set-up time required to "switch" runs from one type container to another.

#### Low Cost "specialty" metal containers

How Olive Can Company's new, highly automatic production facilities . . . and 46 year file of stock design tins afford tremendous metal container economies

ncreased emphasis is being placed by Olive Can Company executives on their firm's ability to offer customers a wide variety of stock container design tins to help cut costs in introducing new products and repackaging "standards".

Olive Can Company, whose continuous growth has paced the expansion of the "specialty" container market, recently enlarged its operations by moving into an ultra-modern plant on Chicago's northwest side. These new facilities, which include a number of highly automated production lines, have enabled the firm to produce an increasingly wider variety of metal containers, both in size of container involved and quantity desired. This flexibility of production enables customers to keep their own metal container inventory at economically low levels, with every assurance that Olive can immediately schedule and produce additional metal containers within two or three days if they are urgently needed. Also, if a company is uncertain about the quantity of metal containers required to market a new product, it can place a small initial order, again with the assurance that Olive's unique production facilities can handle a sudden spurt without paying any type of "penalty".

Coupled with this unique ability to service any size order, the company's offer of a wide assortment

of square, round, oval and oblong shape stock design tins has met with considerable success among both large and small buyers of "specialty" metal containers. Because these designs have proven successful and are economical to use, customers have happily forced Olive to devote an increasingly larger proportion of their production output to this type of business. Equally important, these stock designs not only give customers more "metal container packaging" for their money, but they can be propackaging's for their money, but they can be produced in a minimum of time (when necessary, in less than forty eight hours).

In the field of custom design tins, a number of top national design and lithography awards have repeatedly been won by Olive Can Company's engineering, art and lithography experts. This creative service is available to all Olive customers and often results in a container that wins solid acceptance from the trade and immediate acceptance from the ultimate consumer.

For further information about plain and litho-graphed, custom or stock designed "specialty" metal containers contact-

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Versatility of facilities and talents make O-I your best source of supply. In container development—beauty, utility, tradition are blended in the right proportions for your product's needs.



#### The Right Closure

Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.



#### **Needed Fitments**

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### Packaging NOTES

#### Whitney Appoints Knam

Justus H. Knam last month was appointed sales engineer of L. A. Whitney Co., Inc., Needham,



Justus H. Knam

Mass. He will cover the Connecticut and southern New York territory with packaging-systems engineering and sales service.

During the past 18 years Mr. Knam has been associated with Durkee Famous Foods division of Glidden Co., American Cyanamid Co., and McKesson & Robbins Co., all in plant and project engineering capacities.

#### **New Knox Plant Opens**

The formal opening of the new four million dollar glass bottle and container manufacturing plant at Danielson, Conn., of Knox Glass, Inc., Knox, Pa., took place Sept. 26. Connecticut's Governor Abraham Ribicoff headed the list of dignitaries present formally to mark the opening of the newest plant of the nation's fourth largest manufacturer of glass containers. Other speakers addressing several hundred guests, including governmental and civic officials, was Dr. Arthur W. Wishart, president of Knox.

The opening of the 105,000 square foot plant, which occupies a 25-acre site at suburban Dayville, marks the return to New England

of an industry absent since before the turn of the century when all glass was blown by hand.

Production at the new plant includes bottles, jars and other types of glass containers for use by chemical specialties, cosmetic and chemical plants with processing facilities in New England. At present the plant is designed to produce only "flint" or plain, clear glass.

In addition to the newly opened unit at Danielson, Knox has seven other plants extending from Palestine, Tex., to New England.

The firm's annual sales volume last year was approximately \$33 million, six per cent of total industry sales.

#### **Association Moves Office**

The National Flexible Packaging Association has moved to 11750 Shaker Blvd., Cleveland 20, from its former location at 850 Euclid Ave. New telephone number is Washington 1-0778.

#### Kuhn Named President

The retirement of Edward G. Kuhn as president and general manager of Consolidated Packaging Machinery Corp., Buffalo, N.Y., and the appointment of Edward L. Kuhn to the same position were announced last month by the firm's board of directors.

Edward L. Kuhn has been

vice-president in charge of sales since 1955. He joined the company after Navy service during World War II and was appointed sales manager in 1950.

The elder Mr. Kuhn, who served in his most recent position since 1943, continues as a director.



Edward L. Kuhn

Also announced was the appointment of Leroy G. Wells as treasurer.

#### **Tin Plate Prices Rise**

United States Steel Corp. and Youngstown Sheet & Tube Co. have announced that their tin plate prices will rise an average of 3.5 per cent beginning Nov. 1. Other tin plate producers are expected to follow as they move their prices into competitive position.

Meanwhile two leading can producers announced last month that they will raise can prices at the same time.

American Can Co. announced its prices would be raised

Newly opened glass container plant in Danielson, Conn., of Knox Glass Co., Knox, Pa. is first plant of its kind to operate in New England since before 1900.



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#### WITH AN UNRIVALED



#### SALES RECORD...



#### FOLLOW THE LEADERS TO CANCO



More shaving lather is sold in Canco pressure cans than in all other makes combined. Naturally, there are good reasons for this success!

Canco makes a full line of guaranteed pressure cans in seven sizeswith standard one-inch cup openings or individually styled tops. To give you a round-the-can label design, Canco has developed the first commercial coated side-seam.

Canco also offers experienced assistance from technical service experts and other specialists. And through nationwide consumer advertising, Canco has helped boost sales for all its customers in the aerosol industry! So, for any pressure product, take the leaders' tip-come to Canco first!

#### AMERICAN CAN COMPANY

Just Printed! Colorful folder on Canco products and services in the aerosol field. For a freecopy write to American Can Company, 100 Park Ave., New York 17, N.Y. in accordance with material and labor costs involved in each type of can rather than follow its traditional across-the-board percentage increase. William C. Stolk, president, stated that the increase would "reflect higher labor and other costs" besides the tin plate price increase.

An official of Continental Can Co. said the company had "not as yet determined the extent of the price increases for individual products, but announcements will be made to our customers shortly."

#### Packaging Forum Held

Approximately 1,200 packaging experts attended the 20th Annual National Packaging Forum of the Packaging Institute, Inc., New York, which was held Oct. 13-15 at Chicago's Edgewater Beach Hotel. Fifty-six speakers addressed the forum in a continuing series of concurrent seminars.

A feature of this year's gathering was a closed circuit television presentation from the Charleston, S. C., plant of the West Virginia Pulp & Paper Co. to demonstrate the production and features of a new stretchable paper it has developed.

Included in the three day meeting were seminars dealing with drug and pharmaceutical packaging and aerosol packaging, production line and machinery, package marketing, and packaging research and development.

#### **Crown Appoints Fauth**

Frederick E. Fauth has been appointed chief engineer of the machinery division, Crown Cork & Seal Co., Philadelphia, it was announced last month by Lowell H. Smith, division general manager. In his new position he is responsible for all mechanical engineering of the division at Baltimore.

Mr. Fauth joined the company in 1938 as a draftsman in the engineering department. Later he was advanced to assistant manager of the department and in 1954 was named chief engineer of packaging machinery.

#### Continental Can Realigns Executives

**F** OUR top management assignments at Continental Can Co., New York, were announced last month by Lucius D. Clay, chair-



Lawrence Wilkinson

man of the board and chief executive officer.

The appointments included Lawrence Wilkinson as executive vice-president in charge of finance and administration; Charles B. Stauffacher as executive vice-president in charge of the company's Robert Gair Paper Products Group; William M. Cameron as executive vice-president for glass and plastics operations; and E. L. Hazard as vice-president in charge of the central metal division.

Mr. Wilkinson was formerly executive vice-president for glass and plastics operations. He joined Continental as financial vice-president in 1951 and has a background of banking and government work. With Continental since 1952, first as control officer and



C. B. Stauffacher

later as financial vice-president, Mr. Stauffacher formerly was staff director of the Office of Defense Mobilization. He succeeds Norman F. Greenway, former head of Gair. who retires Jan. 1, 1959.

Mr. Cameron became a vicepresident of Continental Overseas Corp. in 1944, when Continental acquired Cameron Can Machinery Co. of which he was a vice-president.

Joining Continental in 1934. Mr. Hazard became plant manager in Los Angeles in 1948. Most recently he was director of staff of the metal operations group.

W. M. Cameron



E. L. Hazard







The H-A"Imps"say-



brings you the newest in glass!



sells cleanliness better

No matter what your product improves, it will get more impulse sales with greater impact—packaged in glass by H-A! H-A's rich, even amber, and crystal-clear flint containers come in every size and shape you need, to please your product and your customer, too. Sell cleanliness in a beautiful package—call or write H-A, right now!

### HAZEL-ATLAS GLASS

division of CONTINENTAL © CAN COMPANY

WHEELING, WEST VIRGINIA

SOAP and CHEMICAL SPECIALTIES

#### W. R. House, O-I, Dies

William R. House, 62, manager of the Rochester, N.Y., sales branch of the glass container division of Owens-Illinois Glass Co., Toledo, O., since 1946 and a veteran of 35 years with the company, died Sept. 7 at his home in Lyons, N.Y. He joined the closure division of Owens Bottle Co. in Toledo in 1923 and two years later moved to Chicago as a salesman. He was advanced to district sales manager in Buffalo, N.Y., in 1929 and to eastern sales manager in 1931.

Mr. House returned to Toledo in 1935 as assistant manager of the pharmaceutical and proprietary division and remained in that post until he was appointed Buffalo branch manager in 1942. In 1948 he was named to head sales in Rochester.

#### **Vulcan Plant to Open**

A steel shipping pail manufacturing plant said to be the first such facility on Canada's Pacific coast will begin production early next month, according to Vern I. McCarthy, president, Vulcan Containers, Inc., Bellwood, Ill., and Norman G. Bernecker, president, Vulcan Containers, Ltd., Toronto, Ontario, Canada.

The new Vulcan plant is in a recently acquired one-story building of 10,000 square feet located in Vancouver, British Columbia.

Officers of the unit include Mr. Bernecker as president, Mr. McCarthy as executive vice-president, and V. I. McCarthy, Jr., as vice-president. A. W. Cooney is sales representative and R. Gregory Brady is plant superintendent.

#### **Dresden Resigns at Wirz**

Mark K. Dresden resigned last month as president of A. H. Wirz, Inc., Philadelphia. With the company since 1934, Mr. Dresden's first position was in the accounting department. He was elected treasurer in 1937 and vice-president in 1951. Three years later he succeeded H. Saulnier Darlington as president

Robert F. Cox, who joined

the firm in 1942, replaces Mr. Dresden. He had been vice-president in charge of production since 1954.

The 112-year-old firm is credited with the introduction in the United States in 1870 of the fold-up metal tube which later became a standard toothpaste container.

#### **Bag Committee Meets**

The Bag Committee of the Packaging Institute, Inc., New York, met at the Williamsburg Inn, Williamsburg, Va., late last month and discussed developments in a number of specialized manufacturing and packaging fields. Sessions were conducted by Chairman O. J. Burkland of E. I. du Pont de Nemours & Co., Wilmington, Del.

The committee is one of 25 technical committees of the Institute. Reports were presented at the recent meeting about bag closures and constructions, measurement of finishes, specialty papers and fibre-free paper.

#### **Packaging Committees Meet**

The four production line committees of the Packaging Institute, Inc., New York, held a special combined meeting last month at Skytop Lodge, Skytop, Pa. Edward M. Wixted of Schering Corp., Bloomfield, N. J., over-all chairman of the committee, conducted the two-day event.

Twenty-six production line experts attended the gathering and heard addresses by faculty members from the school of packaging of Michigan State University. A round-table discussion about the packaging engineer's present status and future was also featured.

On the second day of the meeting, committee members were taken on a conducted tour of a nearby U. S. Army Signal Corps Depot which included a visit to Army package testing laboratories.

Among those attending the meeting were E. Herzog, Lever Brothers Co.; Jules J. Nicks, Corn Products Refining Co.; Robert E. Sueter, The Mennen Co.; and Edward J. White, Warner-Chilcott Laboratories,

#### **GCMI Meeting Set**

The semi-annual meeting of the Glass Container Manufacturers Institute, Inc., New York, will be held at The Cloister, Sea Island, Ga., Nov. 11-14, according to Victor L. Hall, general manager of the organization. GCMI is an association of 69 manufacturers of glass containers, metal and moulded closures, and supply industries.

Speakers at the meeting will include Gen. Carlos P. Romulo, Philippine Ambassador to the United States; Glenn A. Mengle, Brockway Glass Co., Brockway, Pa., GCMI president; industry representatives; and members of the GCMI staff.

#### Knox Glass Sales Up

Knox Glass Inc., Pittsburgh, has reported its sales volume running at 13 per cent ahead of the sales record it established last year.

Production capacity of the firm increased 20 per cent with the opening of amber glass manufacturing facilities in Texas in August and a new plant in Connecticut which began operation last month.

Share holders of Knox approved last month a management proposal to increase the authorized capital stock of the company from \$4,000,000, divided into 160,000 shares of \$25 par value, to \$6,250,000, divided into 1,000,000 shares of \$6.25 par value. At the same time share holders voted to split and change each presently issued share into four new per value shares.

#### **Rexall Names Schneider**

Appointment of Carl F. Schneider as director of the package development department, Rexall division of Rexall Drug Co., Los Angeles, was announced last month by Edwin L. Ramsey, vice-president of the new products division.

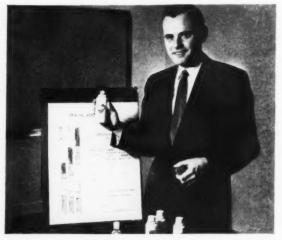
Mr. Schneider has been identified with the package engineering field for many years.

TO AEROSOL MARKETERS... Present and Prospective...

## GENERAL CHEMICAL OFFERS THESE HELPFUL SERVICES



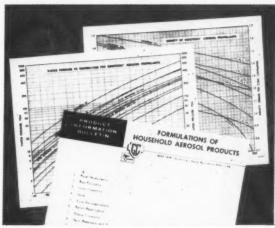
Expert Technical Service, Formulation Assistance. General Chemical has one of America's finest aerosol laboratories—completely equipped for testing and development work. Its services have guided many aerosol marketers in their development programs and are readily available to you. With General Chemical's help you may be able to save time and money in arriving at a compatible aerosol formulation of your product for evaluation and final testing by your own research and marketing experts.



Market Data. General Chemical has prepared a fact-packed marketing and sales presentation to help you in a preliminary survey of the aerosol field and in planning your marketing program. It includes sales projections for aerosol and non-aerosol segments of many markets, prepared by our Market Surveys Department, as well as a host of other helpful facts and figures. To arrange for a special presentation, simply call or write General Chemical's "Genetron" Department.

GENERAL CHEMICAL DIVISION

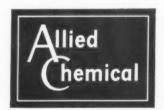
40 Rector Street, New York 6, N. Y.

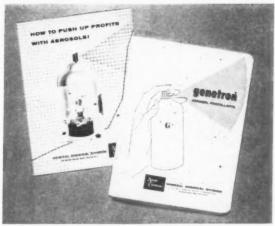


Technical Data. General Chemical offers technical information ranging from the physical properties of "Genetron" propellants to formulation data—including many new and promising formulations developed or tested in our laboratories. Rapid strides in aerosol chemistry and technology have rendered obsolete many of yesterday's "conclusions" about the economics and practicality of aerosol packaging for certain products. We will be glad to review such products with you in light of current knowledge. Ask to be put on our mailing list for new technical bulletins.



Field Assistance. General's aerosol experts are always available to help solve problems involving the storage and handling of propellants in your plant and filling line. You may find it profitable to discuss your filling line operation with a General Chemical technical representative, from point of view of operating efficiency and economy, propellant handling, etc. Technical manuals on storage and handling of "Genetron" aerosol propellants are available on request.





Basic "How To" Manuals. Two free booklets are available on request. "How to Push Up Profits with Aerosols" contains valuable market and technical data... reliable sources for contract filling, aerosol containers of every type, valves, etc... brief descriptions of the complete line of "Genetron" aerosol propellants. "Genetron Aerosol Propellants" is a more technical manual, with extensive data on the physical properties of "Genetron" propellants and mixes, technical service, commercial filling methods and other topics of interest to the aerosol manufacturer.



A Full Line of Aerosol Propellants. All standard fluorinated hydrocarbon propellants and mixes are available in the "Genetron" line—also special propellant mixes where unusual properties are required. The "Genetrons" provide the right propellant for virtually every aerosol need . . are first choice of many leading fillers and marketers for formulating household, drug, cosmetic, agricultural, industrial and other types of aerosol products. Write today for further information.

## genetron

AEROSOL PROPELLANTS

Putting the "push" in America's finest aerosols



## A PACKAGING TEAM NEEDS

To get the best packages for their products, more and more companies are making packaging decisions team decisions. But a packaging team isn't complete unless it has the "outside" viewpoint—the kind of viewpoint you get from an Anchor Man!

The Anchor Man is a glass packaging specialist. He's helped solve hundreds of tough packaging

problems, and he can help solve yours through this wide experience.

He offers a complete line of Anchorglass\* containers—amber, crystal and green—in all standard sizes and styles. The quality of these containers is safeguarded by hundreds of daily checks, tests and controls. You get the same high quality standards in the complete line of Anchor\*



## AN ANCHOR MAN!

metal and molded closures. And you get containerclosure combinations that are best for you in every way.

Contact your Anchor Man. We know you'll like his service. We know you'll want him on your team, too. Anchor Hocking Glass Corporation, Lancaster, Ohio. Branch offices in all principal cities.

## ANCHOR HOCKING

Glass Containers and Closures









Now in test market in Rockford, Ill., is new "Glad" synthetic detergent tollet bar just added to line of Armour & Co., Chicago. Pink bar is packed in pink foil wrapper which leatures zip tape opening. Wrapper copy stresses softwater cleanliness" and "a new deodorant freshness." "Glad" is available in both hand and bath sizes.

National introduction of a new "family" of "air-wick" aerosol household deodorants, with two new fragrances and a newly designed push-button can, was announced last month by the Pepsodent Division of Lever Brothers Co., New York New fragrances include "Garden Spice" and "Evergreen," in addition to "Wild Flower" (formerly "Floral") and "Natural"

## What's New?

New Linogloss floor wax of Armstrong Cork Co. Lancaster, Pa., is now available in six sizes. Featuring a formula which includes vinyl, the product is packaged in pint, quart, gallon, five, 30 and 55 gallon containers. Continental Can Co. supplies the four smaller sized containers; Jones and Laughlin Steel Co. supplies 30 and 55 gallon drums.

A new pine fragrance "Lysol" germicide is being introduced nationally this fall by Lehn & Fink Products Corp. New York. Basically the regular "Lysol" formula with orthohydroxydiphenyl as the germicidal agent, synthetic pine oil provides the fragrance. The product has a phenol coefficient of 5.0 and is claimed effective against any known type of bacterial or viral-disease organism in the home.

















New private model container and new label (top, left) are being used by Lucky Tiger Manufacturing Co., Kansas City, Mo., for the packaging of its line of "Lucky Tiger" hair products. Also featured is a white kraft shipping container and new corrugated box printing. Four ounce bottle is now in distribution. A seven-ounce package will be introduced later. Bottles are by Owens-Illinois Glass Co., Toledo, and individual cartons by Container Corp. of America, Chicago.

#### xxx

"Burma Shave' is now available in a 10-ounce pressure package, it was announced recently by Burma Vita Co., Minneapolis. Featuring a mentholated ingredient, product is packaged in a yellow can printed with green letters. Retail price is 89 cents.

#### 35 35 36

Hood Chemical Co., Ardmore, Pa., is now packaging three of its products in pebbled finish glass bottles with an indented gripping area for ease of handling. Specialties so packaged are "E-Z Liquid Starch," "Zero Household Cleaner" and Hood Ammonia. Bottles are supplied by Hazel-Atlas Glass Division of Continental Can Co., New York. Contrasting with rough texture of bottle, company trademark, a lower case "h," and name appear on 32-ounce bottle in smooth finish, raised letters. Wrap around, color-keyed labels, designed by Jim Nash Associates, are supplied by H. S. Crocker Co., San Francisco. Starch label is printed in blue, red and navy blue on white: "Zero" cleaner label is green, red and navy blue on white, and ammonia label is coral pink and navy blue on white. White, screw-on cap is supplied by Armstrong Cork Co., Lancaster, Pa.

#### xxx

"Easy Glamur" rug and upholstery cleaner of Glamur Products, Inc., Syracuse, N. Y., is now available with "Corobex" germicide. The new "Glamur" formulation contains as active ingredients: octyl phenoxyethoxyethyldimethylbenzyl ammonium chloride (3.2%) and cetyl dimethyl benzyl ammonium chloride (0.8%). "Corobex" is produced by Bex Industries, Inc., New York. To apply, the new formulation is diluted with eight parts of water. In addition to the one-half and one pints shown packed in glass bottles by

Brockway Glass Co., Brockway, Pa., the product comes in quart, one-half and one gallon containers.

#### 25 25 25

A major breakthrough in hair shampoos is claimed for "DuBarry Royal Shampoo" of Warner Lambert Pharmaceutical Co., Morris Plains, N. J. For the first time, according to the maker, a shampoo has been formulated with Royal Jelly of the Queen Bee. Besides, says Warner Lambert, to the "vital potency of Royal Jelly, an anti-dandruff ingredixient" has been added which "removes and helps prevent dandruff" Six fluid ounces retail for \$1.50.

#### xxx

Three dimensional counter unit to display its spray cologne foursome: "Desert Flower," "Escapade," "Early American Old Spice' and "Friendship Garden," was announced recently by Shulton, Inc., Clifton, N. J. Vacuum-formed plastic replicas of the bottles—each fragrance in its own pastel shade—are set on background panels of black and white. Oval top piece is pink, blue and gold. Display was produced by Larstan Processing Co.

Four piece gift set being featured by Shulton, Inc., Clifton, N. J., as a Christmas present. The dark red carton carrying the traditional Shulton clipper ship, includes "Old Spice" plastic stick deodorant; pressure packaged "Smooth Shave" (61/4 oz.), and 43/4 ounce crockery bottles of "Old Spice" after shave lotion and cologne for men. Retails for \$4.00, plus tax.

#### xxx

Light weight, gallon-size plastic bottle introduced recently by the plastic container division of Continental Can Co., New York. A one color, silk screen printing process has been developed for labeling and decorating the bottle. Of traditional "Boston Round" style, these bottles are available in 38/400 and 38/430 neck sizes. They are finished in a variety of colors or natural polyethylene. They may be used for packaging disinfectants, bleaches and other hard-to-package household chemical specialties.

#### 25 25 25

"Sea shell" bath soap is included in the new "Deauville" line of fragrance products just being announced by Du-Barry (Warner Lambert Pharmaceutical Co., Morris Plains, N. J.) Three bath size cakes of the soap perfumed with the new fragrance retail for \$1.50, plus tax. In addition to the yellow bath soap, the line is made up of a bath powder, cologne mist, cologne and a one-half ounce bottle of perfume.

#### XXX

Timely point-of-purchase display designed to promote its "Tweed" line in the fall fashion-fragrance season is leaf display of Lentheric, New York. Prominently displayed in the line of fragrance products clustered about leaf display, half of which is filled in with "Tweed"-textured paper, are aerosol hair spray (extreme left) and "Tweed" shampoo (extreme right). Centered on display shelf is pressurized "Tweed Mist." Shelf is supported by four slender gold wire legs.

#### XXX

A switch to a taller, thinner container for its "Presto Lather" pressure packaged shave cream was revealed late in September by Barbasol Co., Indianapolis. The new container, supplied by American Can Co., provides increased label surface for the "super-economy" size shave lather. The new style 11-ounce container Barbasol used for both its "regular formula" and menthol shave creams. It still retains the six ounce

package. The large size unit retails for 79 cents. Greater shelf appeal and increased lithography area are claimed for the new package, which is a 211 x 143 size can. Another advantage claimed for the newly adopted can is that it is easier for the consumer to hold because of its smaller diameter. The can is lithographed with a red, white and blue barber pole design. Brand name and price appear on back and front of can, with directions for use printed vertically on one side. The product is distributed nationally in six-can shelf packs. Cans are packed 12 per shipping case. Valve is by Precision and overcap by Phoenix Metal Cap Co.

#### xxx

A new arrival up at Lentheric (New York) is "Tweed" toilet water in a new "Vagabond" flacon designed to avoid spillage and breakage on the road. Outside of the aerosol mist form, this is the first time "Tweed" has appeared as a toilet water. The flacon, which carries the famous Lentheric logo across its front, is topped off with a shiny black cap. Packaging for the flacon is a trunk like box, exterior of which carries international date stamps. It opensup showing sketches of a tropical port and the Eiffel tower. Retail price of 135 ounces is \$2.50, plus tax.



- 1. COMBINES THE DESIGN ADVANTAGES OF THE RISDON VALVE WITH THE FIRST AND FOREMOST MECHANICAL ATOMIZING ACTUATOR.
- 2. WIDE RANGE OF APPLICATION

Gives excellent performance on all 3-phase products including water-base formulations

• Dispenses propellant emulsions or dispersions • Gives Super-spray performance on conventional 2-phase and ultra-low pressure products • Applied to Glass, Metal and Plastic Containers.

- 3 WIDER CONE, FINER, DRIER SPRAY CLOUD Softer, more evenly diffused spray eliminates
- 4 LONGER LASTING CONTENTS Especially advantageous in expensive products such as medicinals and perfumes.
- 5. SPRAY CONE CLEARS CONTAINER Eliminates messy accumulation on top of can
- 6. IMPROVES PRODUCTS BY MINIMIZING DILUTION EFFECTS Using MICRO-MIST valve on two-phase products gives dual-action atomization which permits reduction in percentage of propellant.
- 7. GREATER FORMULATION LATITUDE AND ECONOMY

## 8 Reasons Why RISDON MICRO-MIST\* VALVES

Dispense An Ocean Of Successful Aerosols



### NEW Erade Marks

THe following trade marks were published in recent issues of the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany each notice of opposition.

Super Cat—This for rodenti-cides. Filed Aug. 16, 1957 by Lucian L. Spellings, doing business as Tom-Products Co., Jonesboro, Ark. Claims use since Apr. 29, 1957.

Whitegard - This for fabric conditioner for laundry use. Filed Jan. 31, 1958 by Pennsalt Chemicals Corp., Philadelphia. Claims use since Dec. 20, 1957.

Curltite — This for hair spray preparations. Filed Jan. 2, 1957 by Nelson Dreyfuss, doing business as Dreyfuss Co., Buffalo, N.Y. Claims use since Oct. 1947.

Action-This for wave lotion. Filed June 14, 1956 by Richard Hud-nut, New York. Claims use since June 7, 1956.

Deocin — This for deodorant. Filed Oct. 2, 1957 by The Upjohn Co., Kalamazoo, Mich. Claims use since Apr. 22, 1957.

Skin Guard-This for protective cream for hands and skin. Filed July 5, 1957 by Vel O Rose Corp., Mont-clair, N.J. Claims use since Oct. 1,

Black Gold-This for detergent for general washing and cleaning purposes. Filed Jan. 10, 1958 by Morris Sewall & Co., Houston, Tex. Claims use since Nov. 30, 1956.

Whee!—This for liquid laundry

detergent. Filed Jan. 16, 1958 by Texize Chemicals, Inc., Greenville,

S.C. Claims use since Dec. 17, 1957.

Brite-View — This for silicone
lens cleaner for eyeglasses. Filed Jan. 20, 1958 by John H. Powell, East Chicago, Ind. Claims use since Dec. 12, 1957.

Haemo-Sonic-This for liquid Meinecke & Co., New York. Claims use since Mar. 14, 1958.

Sulframin—This for detergents

and ingredients of detergents. Filed Apr. 22, 1958 by Ultra Chemical Works, Inc., Paterson, N.J. Claims use since Jan. 1939 on detergents for

textile washing.
U L C—This for liquid cleaning or L C—This for liquid cleaning and detergent composition. Filed June 6, 1958 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Nov. 25, 1957. Kiss—This for cleaning com-pound for general use. Filed June 11,

1958 by Tracy-Burns Enterprises, Inc.,

Flint, Mich. Claims use since Oct.

VP - This for soaps and detergents in powdered, cake, and liquid forms. Filed June 16, 1958 by Valley Products Co., Memphis, Tenn. Claims use since on or about Jan. 1940.

Stanley-This for moth cakes, perfumed crystals, bowl deodorants, moth sprays, insecticides and disin-fectants, moth proofing rinses, liquid insecticides and disinfectants, air or room deodorants, and refrigerator de-odorizers. Filed May 17, 1956, by Stanley Home Products, Inc., Westfield, Mass. Claims use since Sept. 15,

Aqua Derma - This for cream

Aqua Derma — This for cream shampoo. Filed June 11, 1956 by Lan-Lay, Inc., San Francisco. Claims use since Apr. 10, 1955.

Prestex—This for liquid glass cleaner. Filed Oct. 22, 1956 by William C. Fawkner, doing business as Prestex Products Co., St. Paul, Minn. Claims, use since Sent 15, 1056.

Prestex Products Co., St. Paul, Minn. Claims use since Sept. 15, 1956.

Fels — This for household detergents and soaps. Filed June 17, 1957 by Fels and Co., Philadelphia. Claims use since May 21, 1957.

F-57—This for general purpose germicidal detergent. Filed June 26, 1957 by Franklik Revenue Co. Philadelphia Present Present

1957 by Franklin Research Co., Philadelphia. Claims use since Jan. 18,

Phisel - This for household cleaner and detergent composition. Filed July 30, 1957 by Pennsalt Chemicals Corp., Philadelphia. Claims use since Mar. 15, 1949.

Skode — This for toilet bowl cleaner. Filed Dec. 16, 1957 by Cut Kravagna, doing business as Cleano Products Co., El Segundo, Calif.

Claims use since Sept. 20, 1957. Tinkerbell—This for soap. Filed Apr. 28, 1958 by Tom Fields, Ltd., Englewood, N.J. Claims use since June 1952.

Sta Nu-This for soaps and tents for cleaning textile madetergents terials. Filed Oct. 5, 1956 by Wells Chemical Corp., Chicago. Claims use since on or about Sept. 27, 1956.

Semco Vogue Miracle — This for rug cleaner, toilet soap, scalp shampoo, detergents, and wall cleaners. Filed Dec. 6, 1956 by Standard Merchandising Co., Hillside, N.J. Claims use since Sept. 27, 1956.

Quickbrite — This for metal

cleaner and detergent composition. Filed July 30, 1957 by Pennsalt Chemcomposition. icals Corp., Philadelphia. Claims use since April 1951.

#### Plax Advances Eight

Eight advancements in its sales staff have been announced by Plax Corp., Hartford, Conn., producer of blow-molded plastic containers and orientated polystyrene film and sheet.

William R. Bolton has been

named general sales manager, containers, and A. K. (Ken) Thorn, general sales manager, film and

E. S. Marsh replaces Mr. Thorn as district sales manager, Chicago, and will be assisted by Ludwell E. Gaines, Jr. Gilbert B. Luce succeeds Mr. Bolton as district sales manager, New York, with John J. Barile named assistant district manager.

Heading two newly-established district offices are Russell E. Ames, Philadelphia, and John W. McLaughlin, Cincinnati.

#### SIPMHE Course Offered

A technical short course in packaging, materials handling, warehousing, and shipping management will be presented in Chicago, Oct. 13-15, in conjunction with the 13th annual Packaging, Handling, and Shipping Show at the Chicago Coliseum, Oct. 14-16. Both events are sponsored by the Society of Industrial Packaging and Materials Handling Engineers.

The course, presented by the extension division of the College of Engineering of the University of Illinois, will consist of 16 sessions and will cover 45 separate topics. Sessions will be repeated to afford maximum attendance by registrants at the show.

Experts in packaging from the University of Illinois and five other technical institutions, as well as representatives from leading companies, will conduct the course.

#### Crown, National Negotiate

John F. Connelly, president and chairman of the board of Crown Cork & Seal Co., Philadelphia, and Thomas E. Millsop, president of National Steel Corp., Pittsburgh, have jointly announced the completion of negotiations for the purchase of Crown's cold reducing mill and supplementary equipment for the manufacture of electrolytic tin plate by National's Weirton Steel Division.

Equipment, at Crown's Baltimore plant, will be utilized by Weirton Steel Division.





Coming soon...

# GOM

## propellants

#### Important News for the Aerosol Industry ...

Soon, coming your way, UCON Propellants—in five top quality grades, 11-12-22-113-114, to meet your product specifications for pressure, stability, solubility, safety, and particle size.

#### With UCON Propellants You Will Get ...

Market-Wise Representatives, every one technically trained, to help you choose the best combinations of UCON Propellants for your products. They will assist you, too, with practical advice on selection of containers, valves and equipment—provide useful technical and market data.

**Technical Service** to help fillers and marketers develop new aerosol product applications, improve present ones. Years of experience in the development and application of emulsions, surface coatings and solvents back up the high quality of the assist-

ance which will be available to you.

**Prompt Delivery** from a nation-wide network of distribution points...the quantity you want, when you want it.

There will be a right UCON Propellant for practically every aerosol purpose. For more about these products of America's newest plant designed exclusively to produce highest quality fluorocarbons, write UCON Propellants, Union Carbide Chemicals Company, Division of Union Carbide Corporation, 30 East 42nd St., New York 17, N. Y.





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#### UCON Propellants will be available in five grades

UCON Propellant 11 Trichloromonofluoromethane
UCON Propellant 12 Dichlorodifluoromethane
UCON Propellant 22 Monochlorodifluoromethane
UCON Propellant 113 Trichlorotrifluoroethane
UCON Propellant 114 Dichlorotetrafluoroethane

UNION CARBIDE CHEMICALS COMPANY Division of Union Carbide Corporation

## THE FUTURE IN PACKAGING



COSMETIC PRODUCTS



**HOUSEHOLD PRODUCTS** 



TOPICAL APPLICATION PRODUCTS



CREAM AND LIQUID PRODUCTS



PERSONAL PRODUCTS



**FOOD PRODUCTS** 

The package of the future, for aerosol container. The valve for



any product that flows, is an aerosols, naturally, is made by

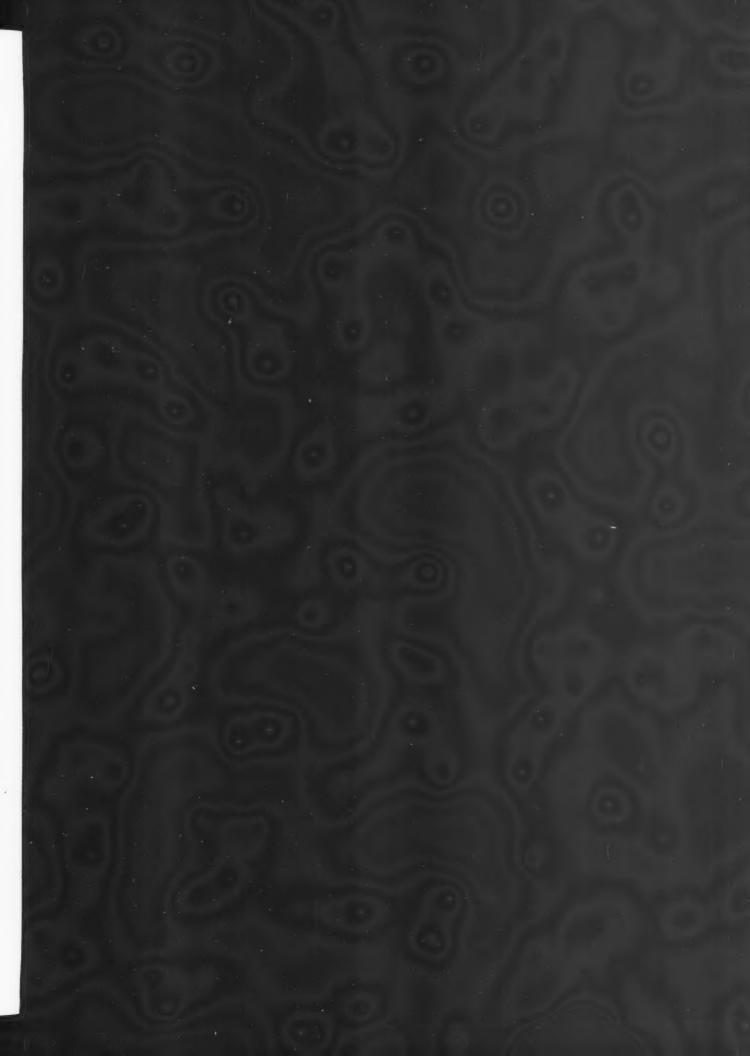
Precision, pioneers, researchers and developers of the package of the future.

Whether your product should be dispensed in a spray, a foam, a stream or a drop,

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## PRESSURE PACKAGING

#### Aerosol Judging Nov. 19

Judging in the seventh annual Aerosol Packaging Contest, held under the auspices of the Chemical Specialties Manufacturers Association, will take place on November 19th at the Chemists Club, New York, according to Fred Lodes of Lodes Aerosol Consultants, Inc., New York, chairman of the committee. A panel of seven judges, as vet not fully selected. will choose the winners in eleven classes of aerosol products and will also pick a "best package in the show" out of the eleven class winners. The panel of judges will comprise two package designers, a retail merchant, a merchandising expert, an editor, a housewife and a radio or television personality. Final selection of judges is being completed at a meeting of the Aerosol Publicity Committee on October 22. Entries in the contest closed October 15.

Announcement of the winners in the annual aerosol package competition will be made at the 45th annual meeting of CSMA on December 9 at the Commodore Hotel, New York. Representatives of firms marketing winning products will be present at the CSMA luncheon on that day to receive plaque awards. The winning packages and other entrants in the competition will be on display at the meeting following the announcement of awards.

#### **Aerosol Supermarket Plans**

The aerosol supermarket which has been planned for December 8 in New York in conjunction with the celebration of the tenth anniversary of the founding of the Aerosol Division of the Chemical Specialties Manufacturers Association will be replete with thousands of packages of every type of aerosol product and with streamers, count-

er displays and other merchandising aids of various manufacturers. According to Joseph Tomlinson of General Chemical Division of Allied Chemical, who reported on plans for the aerosol supermarket

#### \$10 Wager!

A wager based on the number of product brands which will be displayed and distributed at the Aerosol Supermarket at the Hotel Commodore, New York, on December 8, has been made between Earl Graham of Clayton Corp. and Fred Lodes of Lodes Aerosol Consultants, Inc. The amount is \$10. Mr. Lodes maintains that there will be less than 500 brands displayed. Mr. Graham says it will be close to 1,000. The bet will be paid off at the bar at the aerosol supermarket on December 8 at 5:00 P.M.

at a meeting of the Aerosol Publicity Committee held September 23 at the Chemists Club, New York, marketers and fillers of various aerosols will be asked to contribute samples of their products for distribution at the aerosol anniversary festival.

Anywhere from 500 up to one thousand brands of aerosol products are expected to be displayed at the supermarket and distributed to 50 editors of newspapers, women's magazines and trade publications who will be the guests of honor. Following the visit by the editors, the supermarket will be opened to all persons attending the 45th annual meeting of CSMA. The supermarket will be set up in the West Ballroom of the Hotel Commodore. Members of the Aerosol Publicity Committee will be on hand to guide the editors in their rounds of the aerosol displays and to supply such information as may be want-

Physical handling of the displays at the aerosol supermarket and the collection of products for distribution will be in charge of Mr. Tomlinson assisted by the

New pressure packaged all-purpose varnish just announced by Illinois Bronze Powder Co., Chicago, comes in 12 and 16 ounce cans. Firm fills product in its new 12,000 square foot plant addition devoted exclusively to aerosol packaging. Continental and American supply the cans, which are equipped with valves by Newman-Green, Inc., Addison, Ill. West-Penn Mfg. Co. furnished the caps. 12 ounce spray retails for \$1.49, 16-ounce can is \$1.69.

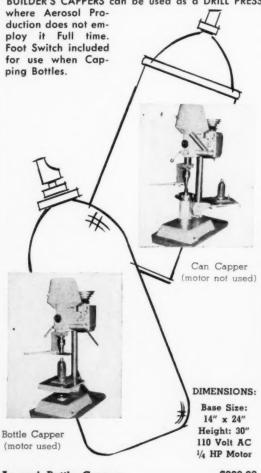


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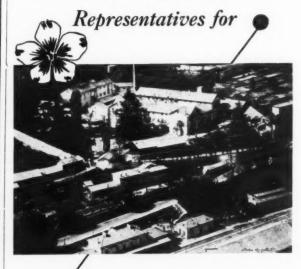
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Aerosol Publicity Committee and a special committee composed thus far of James Heffernan of Du Pont, Wiley Pickett of Penn Salt and Robert A. Killeffer of Union Carbide Chemicals. Further information about the aerosol supermarket may be obtained from H. W. Hamilton, secretary of CSMA or from Mr. Tomlinson.

#### **New Valve Plant**

Its new single level plant is now in full production, Super Whip Valve Co., Chicago, announced late in September. The plant, located at 4101 N. Rockwell St., Chicago, produces foam and liquid valves for pressure packaging foods.

In making the announcement of the new plant, J. M. Turk, vice-president, said that, in addition to production facilities. Super Whip has installed a pilot laboratory for customer sample packaging with nitrogen and a combination of nitrous oxide and carbon dioxide as propellants.

Super Whip has supplied valves, closures and engineering services for the pressure packaging of whipping cream, vegetable toppings and shave lather for the past 12 years.

#### Schary Joins Par

The appointment of Don L. Schary as director of public relations and sales promotion for Par Industries, Inc., Los Angeles con-

Don L. Schary





Edmund D. Bennett, president of Fluid Chemical Co., Newark, N. J., contract packaging firm, was elected to the board of directors of Bon Ami Co., New York, recently. His firm began filling "Jet Spray Bon Ami," the firm's pressure packaged light duty cleaner, on Sept. 15.

tract aerosol packages and manufacturing chemists, was announced in mid-September by Sylvan Lefcoc, president of Par.

A native of New York City. where he was graduated from City College with a BA degree, Mr. Schary joined Par Sept. 1. His background is largely in the public relations field, in which he began his career in 1953 with a New York public relations firm, following two years of military service. He worked for such clients as Tishman Realty Co. and Aetna Steel Corp. In 1954 Mr. Schary moved to Los Angeles to engage in public relations in the entertainment field there. For the past four years he was associated with the Coconut Grove night club at the Ambassador Hotel and with radio station KDAY.

#### **New Nitrogen Plant**

Construction of its new nitrogen plant is underway at Denver, Colo., it was announced last month by Air Reduction Sales Co., division of Air Reduction Co., Inc., New York. Estimated cost of the facility, which is expected to begin operation by Jan. 1, is \$600,000. Oxygen also will be produced at the plant.

Although the firm has maintained supply stores of gases in Denver, the new plant will be its first gas-producing installation in the area. William O. Brown heads the company's operations in Denver.

#### Par Advances Foster

Gerald J. Foster has been appointed plant manager of Par Industries, Inc., Los Angeles, custom aerosol fillers, it was announced last month by Sylvan Lefcoe, president.

Mr. Foster continues as chief engineer of the firm and now supervises production, quality and production control, and filling specifications.

#### **Carbide Names Geary**

Daniel C. Geary has been appointed to the aerosol technical service laboratory for UCON propellants of Union Carbide Chemicals Co., division of Union Carbide Corp., New York, it was announced last month by the company. The appointment is part of an organizational build-up to market UCON fluorocarbons which will be produced shortly at a new 50-million-pounds per year unit at Institute, W. Va.

Previously senior chemist in the aerosol section of Revlon, Inc., Mr. Geary is currently engaged in research and development work in aerosol pressure packaging. He also has been associated with General Chemical Division of Allied Chemical Corp.

Daniel C. Geary



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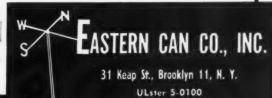
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#### Joins Newman-Green

The appointment of Howard Pound as eastern sales representative with headquarters in New York for its line of aerosol valves was announced late last month by Newman-Green, Inc., Addison, Ill. Mr. Pound, who previously had been with Geigy Chemical Corp., Ardsley, N.Y., for 15 years, handled purchasing and marketing of household and agricultural insecticides. He will make his headquarters at 415 Lexington Ave., New York. His telephone number is Murray Hill 7-7147.

In announcing Mr. Pound's appointment, Joseph Gregory, Newman-Green sales manager, said: "We feel Howard Pound will do an excellent job for all our present and potential aerosol valve customers. This expansion of our eastern sales coverage ties right in with the increased capacity of our automatic assembly lines."

#### **Novel Insecticide Unit**

A novel automatic dispenser for use with a metered pressure can containing a pyrethrins based insecticide has just been introducd by Huntington Laboratories, Inc., Huntington, Ind. The system is designed to control flies, mosquitoes, gnats, and other insects. It has been passed by the U. S. Department of Agriculture for use in the presence of food, according to the manufacturer.

The "Done-Died" system consists of a wall mounted dis-

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AEROSOL NEWS: Another household chemical specialty that has just switched to pressure packaging is Boyle-Midway's (Division of American Home Products Corp., New York) "Rug-Sta." Marketed for many years in liquid form, product now in aerosol package, is designed for application to rug backs to prevent slipping. Available in 10-ounce can size (12 to a case) product retails for \$1.59. Boyle-Midway does its own filling at Cranford, N. J. and Chicago plants. Can is by Continental and Precision is the valve supplier. Product is also recommeded for use on coat hangers to prevent slippage of dresses.

Trylon Products Corp., Chicago, is now marketing its bath oil as an aerosol product

Trylon Products Corp., Chicago, is now marketing its bath oil as an aerosol product under the trade name, "Bathe 'N Glow Spray Mist," O. A. Barke, president announced in September. Seven-ounce container, enough for 60 showers, retails for \$3.50. Gene Rose, Chicago, is the filler. Product, sprayed on before showering, is also available in liquid form in 6 and 12 ounce bottles.

penser of gray baked enamel, nine and one half inches high by three and a half inches deep and five and three quarter inches wide. The device automatically activates the 12 ounce aerosol dispenser at 15 minute intervals. The pressure can features a metered valve set at 100 mg a "shot." Each container yields 3,300 shots, enough to operate ef-

fectively 825 hours or 34 days on a 24 hour basis.

Stalfort Pressure-Pak Corp., Baltimore contract packager is the loader. Can is Crown "Spra-tainer." Huntington has a patent pending to cover the device.

#### First I.A.A. Bulletin

The first issue of Aerosol Bulletin, published by the Zurich based International Aerosol Association, Sept. 25. Dated August 1958, the English language publication carries an article on manufacturing and sales problems involved in pressure packaging by H. Meuresch, Ingelheim, Germany; a report on a trip to America by F. Schmutz, Riehen, Switzerland: a description of the aerosol situation in Spain by Jose Puig, Barcelona; a report from Finland by Y. K. K. Talvitie of Helsinki; and an article on "Air in Aerosol Containers," by E. J. Honisch, Rapperswil, Switzerland. Dr. Honish is vice-president and secretary of the association.

Open view (left) and front view of new cabinet to house new metered dosage aerosol insecticides of Huntington Laboratories, Inc., Huntington, Ind.



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## Production...

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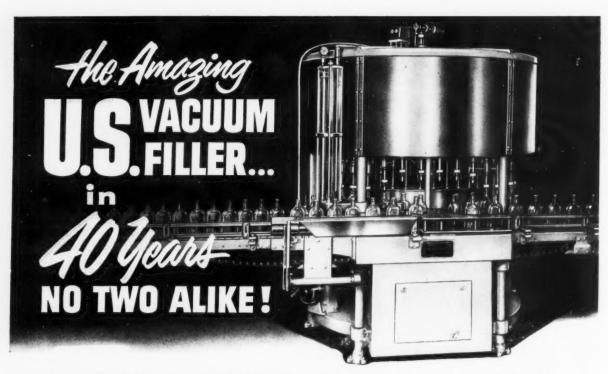
**Products and Processes** 

New Patents

Bulletins and Equipment

New rotary filling machine of Horix Manufacturing Co., Pittsburgh, is designed for "under surface" filling on foamy products. It can be used with ½ gallon "F" style cans, as well as for glass bottles. See details on page 153.





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## Production SECTION

## Monsavon Plant and Process

By E T. Webb

London, England

PPROXIMATELY 500,000 tons of soap a year are manufactured by the Monsavon plant and process, which were first offered to the industry only 12 years ago. The Monsavon plant is a continuous process starting with oils and fats and terminating with finished neat soap in liquid form.

The installation consists of three main sections: (1) devoted to the preparation of raw materials and saponification; (2) washing for the removal of glycerine and removable impurities from the crude soap delivered from (1) and (3) continuous "fitting" and settling of the washed soap delivered from (2). The sections may be worked separately or as a complete whole. Some soapmakers, for reasons to be discussed later, do not use (1) but only (2) and (3). while others use only (2) -and of course many use the complete plant comprising (1) to (3).

Speed of operation and throughput of the complete plant, (1) to (3), may be gauged from the fact that it produces good neat soap of 62 per cent-63 per cent f.a. in 24 hours. That is to say raw materials, entering (1) may be expected to leave (3) as finished hot liquid soap properly denuded of most of its former glycerine and impurities, 24 hours later. Of course when section (3) is not used, it is quite impossible to maintain such throughput.

Main aims of the continuous operation are: (a) to save space, (b) to save time, (3) to offer very

high glycerine recovery and at the same time spent lyes relatively rich in glycerine, (d) to save steam and power, (e) to avoid production of nigres.

Most certainly some space is saved and also time. Glycerine recovery under the worst conditions should never be less than 90% and more usually nearer 95 per cent and the glycerine concentration of the spent lyes should be about the same, possibly slightly less, than the glycerine content of the fats from which the soap has been made. Thus 10 per cent lyes, or slightly less, may be expected from 10 per cent glycerine fats, 9 per cent from 9 per cent fats and so on.

The complete installation—from (1) to (3)—requires about 150 to 200 pounds of steam and 15 kws of electric power to make one ton of soap.

Nigres are continuously recycled to the washing tower and it may thus be claimed that no nigres are actually produced by this system. Color, odor and quality of the soap remain constant no matter how much nigre is returned. A Monsavon unit can be operated continuously at the rate of two tons of soap per hour for hundreds of hours without accumulation of nigres and without sacrificing the quality of the finished soap.

Previous publications have covered the above features of the Monsavon plant and have described the installation in full detail. This article will discuss in a general way not only the advantages but also the draw-backs of the process. Section (1), (2), and (3) will be considered seaparately.

#### Continuous Saponification

Any process for continuous saponification must face stiff competition since any quantity of soap can be made in an open kettle of conventional design in three to four hours. Even without use of jet saponification four hours should provide ample time to reach completion.

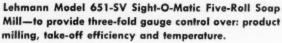
What profit can the soapmaker expect from the use of the Monsavon emulsifier or any other system of rapid and continuous saponification? The answer depends on individual requirements. A plant making only one line of soap would gain by installing a Monsavon saponifier, whereas a plant handling several different soap bases might not. While many soap makers are employing the saponifier to advantage it is also true, we believe, that the majority of Monsavon plant users do not employ the saponifier.

Where many different soaps are made, the saponifier raises problems. What advantages does it offer in economy or quality over the open kettle method? Does it save space, steam, or labor? Does it improve the quality of the final product?

A saving in space is doubtful. True, the space occupied by the saponifying unit itself is considerably less than that normally taken up by a soap kettle of comparative production capacity. But the ancillary equipment needed to

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Moore Dry Dock Company Oakland, California Lammert & Mann Co. Chicago 12, Illinois J. M. Lehmann Co., Inc. Lyndhurst, New Jersey ensure the proper functioning of the saponifier may very easily consume space. It must be remembered that the saponifier can be, and in fact must be, very exacting in its demand. The oil and fat charge must be thoroughly mixed before it is passed to the saponifier. It would be fatal if the saponification value of the mixture were allowed to vary even by a fraction. Also the moisture content of the fat charge must be controlled and kept at least constant, once the plant is set in motion.

Sometimes it is necessary to de-aerate the fats, in order to avoid subsequent soap aeration which is so undesirable because of its retarding effect on the separation of lye from soap in the washing process.

At what point will rosin be introduced into the process, if required? Will it be melted in the oil and fat charge? If so, how much heating and subsequent chilling and filtering of the charge will be involved. Also there is a limit to the f.f.a content of the charge which, in turn, limits the amount of rosin that can be treated in this way. A certain amount of f.f.a must be present in the fat charge intended for feeding into the saponifier-not less than say three per cent -but an f.f.a content of 10 per cent could be regarded as excessive. If the rosin is separately saponified. at what point will it be convenient to take it into process? and so on.

The fat charge must enter the saponifier at a temperature within a certain range which calls for controls of some sort. The caustic soda solution must be prepared at the correct concentration—from which absolutely no deviation is permissible. There is no room for the slightest variation in feed rate of fat and caustic, second by second, or in the temperature, within limits of course, at which they are presented. The returning of scrap soap is another question which must be answered.

None of these problems is fundamental. All can be satisfactorily resolved. But their resolution requires space consuming equipment and tankage. In certain cases such an installation with its ancillaries may need more space than a conventional soap kettle operation, especially in a plant making various types of soap.

#### **Quality of Soaps**

While an improvement in soap quality is affected by the washing tower, section (2), and continuous fitting, section (3) it is difficult to make such a claim, on behalf of the emulsifier. Provided excessive aeration is avoided, the soap leaving section (3) is equal to that made by the open kettle process. But the continuous emulsifier has certain drawbacks.

Supposing the efficiency of the saponifier lagged and there was not 100 per cent saponification at all times, what provisions does it offer for the correction of excessive alkalinity or unsaponified fats? A small waiting tank holds the soap from the emulsifier before it is conveved to the washing tower. This buffer tank has a capacity of one ton-half of an hour's throughputand is fitted with a mixing device. Supposing the soap mass leaving the emulsifier contains the correct amount of caustic soda to offset any free fat that may be present, a little belated saponification might take place here.

Existence of such balance however is doubtful. Actually, it is customary to use a slight excess of caustic in the emulsifier, just to be on the safe side. This practice in itself creates an inconvenience. It causes the spent lyes leaving the washing tower to be very alkaline. They may contain up to one per cent free alkali as NaOH and their subsequent treatment will consume excessive amounts of acid. This difficulty can be avoided by neutralization with fatty acids and recovery of the soap formed. However, such soap may be too dark for current requirements. If this is the case, the high alkalinity of spent lyes will step up the treatment costs.

In any event, if the plant

is to be worked as a truly continuous process, including continuous "fitting," saponification, as nearly perfect as possible, must be regarded as a necessity, especially since the provision for error correction is scanty.

Salt deficiency is another weak point of soap made in the Monsavon emulsifier. When such soap is introduced into the first section of the washing tower it dilutes the salt concentration of the lyes with which it makes contact. Dilution of the lyes may be so great that the salt content may drop below the "critical" level (lowest salt concentration in which soap is insoluble). However, Monsavon washing is carried out with lye having a salt concentration only slightly above the "critical levelsay one per cent higher. Very slight dilution may therefore cause the lye to take up some soap, sometimes with disastrous results.

To prevent such trouble a certain quantity of strong brine (25 per cent salt) must be introduced into the first section of the washing tower to restore the salt concentration of the lyes to a safe level. Addition of this brine lowers unnecessarily the glycerine content of the spent lyes.

No more than four per cent salt may be added to the caustic used in the Monsavon emulsifier, an amount insufficient to raise the salt concentration of the "free liquor" of the soap to the required level. Furthermore, it may be impossible to work the saponifier efficiently even with four per cent salt in the caustic, because the salt retards saponification. By contrast, soap made in the open kettle can easily be dosed with the correct amount of salt before it is conveyed to the washing tower.

No live steam is used in rapid saponification. This is an advantage, because steam can introduce metallic impurities into the soap. But in actual practice the amount of steam required for the kettle process is small and precautions can easily be taken to

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eliminate impurities. Another plus offered by rapid saponification is the short time during which the soap is in contact with metallic surfaces. The risk of metallic contamination is thus reduced. Summing up however, rapid saponification does not seem to offer substantial improvement in soap quality.

#### Saving in Fuel and Labor

Rapid saponification cannot save much fuel because the scope is small. Kettle saponification consumes 120 to 150 pounds of steam per ton of fat saponified. Even if all this steam were saved it would not amount to much. But the rapid emulsifier does require some power and a little steam to operate.

Labor costs of the two systems are hard to compare. The emulsifier operates at a rate of two tons of soap per hour around the clock, involving increased labor and working in shifts. On the other hand, one operator can handle the entire installation, including emulsifier, washing tower and continuous fitting. But such operators must be experienced in matters of soap production, and the percentage of skilled operators in the total kettle room personnel might have to be increased. The question of savings in labor can only be answered on an individual basis.

Rapid saponification, section (1) of the Monsavon process may offer some advantages under certain conditions, but generally they are offset by drawbacks especially apparent in diversified production.

#### **Continuous Washing**

The points in favor of the Monsavon method of soap washing are strong. The tower is a highly efficient unit for the removal of glycerine and impurities from new soap as delivered by the emulsifier or kettle. It washes continuously and counter-currently. The tower consists of six separate washing sections arranged vertically. At the

top of the tower is a "fitting section" which conditions or "fits" continuously the settled washed soap from the last washing section so that it will settle out its nigre in the soap settling pan to which it is continuously delivered.

Each section contains a mixing compartment. This consists of a cylinder extending across the section with a simple mixing mechanism which blends soap and lye on a continuous basis. The mixture leaves the cylinder through four or five outlets into a portion of the section reserved for the continuous settling out of soap and spent lye. Number and diameter of the outlet pipes are designed to keep at a minimum the speed at which the mass enters the settling space. This minimizes disturbance of the soap lve mixture which is in the process of settling.

The new soap (from emulsifier or kettle) is fed at a controlled rate into the bottom section (section 1) of the washing tower by means of a proportioning pump. In the mixing cylinder of section 1, the new soap is mixed with settled lye which is pumped back from section 2. From the mixer the soap lye blend enters the settling space of section 1 and settles very rapidly into two layers-soap and lye. Displacement forces the settled soap continuously through a pipe at the top of section 1 and into the mixer of section 2. The settled lye in section one is withdrawn at a controlled rate by a proportioning pump which conveys it to the glycerine department. In each succeding washing section the same procedure takes place: the settled soap rises by displacement from section to section and the lye is transferred downwards section by section by means of a pump. New washing liquor and nigre returned from the soap settling pan are introduced into the top section (6) by means of a proportioning pump.

Each washing section is fitted with a sight glass in which the interfacial soap/lye level can always be kept in view. By con-

trolling the input of new soap into section 1 and withdrawal of spent lye from this section and by keeping the soap/lye interface level in section I steady, the entire process is kept in line. If too much wash liquor or returned nigre were introduced into section 6 the soap/ lye interface in section 1 would disappear from view. Too much lye would collect in section 1 and Ive only would be visible in the sight glass. Less washing liquor or returned nigre would be pumped into section 6 until the interfacial soap/lye level reappears once more in the window of section 1. The entire washing installation is exceedingly easy to regulate so that the panned fat to spent lye ratio can be maintained at all times.

The fat /lye ratio for a glycerine recovery of 95 per cent will vary between 1.0/1.0 and 1.0/1.10 according to the glycerine content of the recovered salt used in making the wash liquor. For example with a fat/lye ratio of 1.0/1.0 when using wash liquor made from salt free of glycerine the recovery might be 95 per cent. If however the salt used in making the wash liquor contains 5 per cent glycerine then at the same ratio the recovery would only be about 91 per cent. If, in the latter case, a recovery of 95 per cent were required then an increased amount of spent lye would have to be made. The glycerine content of the recovered salt assumes greater significance in counter current processes than is the case in the conventional open kettle process and for very obvious reasons. The effect of returned nigre on the rate of recovery and on the fat lye ratio may be ignored as the glycerine contained in the nigre can be regarded as being in balance, as any calculation will show.

The tower is provided with a jacket for hot water circulation so that the temperature of its contents is maintained at 90°C plus or minus 5°C. Provision is made for the constant maintenance of this temperature even when the plant

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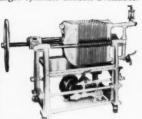
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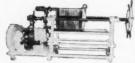
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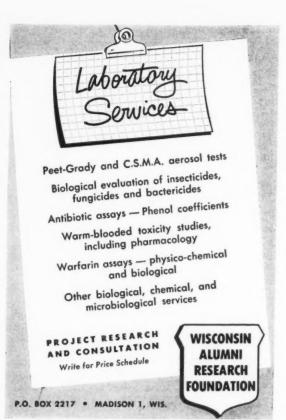
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is not in use. This is an advantage since it enables the shutting down of the plant under load for any period of time, so enabling the operations to be recommenced without loss of time.

Salt concentration of the brine used as wash liquor in the Monsavon process must be kept about one per cent above the

lowest "critical" concentration at which soap being treated is insoluble. Any free alkali present as NaOH in the wash liquor would count as salt for this purpose. Generally however the quantity of free alkali is negligible unless the return nigre happens to be very alkaline.

(To be Continued)

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#### New Dura Wax Folder

A four-page brochure in the form of a file folder, describing its line of waxes and cleaners, is now available from Dura Wax Co., Mc-Henry, Ill.

source of reference to anyone con-

cerned with the formulation and

development of specialty products.

Among the products listed are the firm's waxless floor finishes, "Durax" carnauba base floor wax, 400, 600, and 800 series waxes, "Dura-Strip" liquid all-purpose cleaner, and "J-C Concentrate" cleaner. A description of each item is given as well as a price scale per gallon for various size pails and drums. A drawing of the firm's plant appears on the folder.

#### ---Antara "Igepons" Booklet

A new 16-page brochure entitled "Igepon" Surfactants has just become available from Antara Chemicals, a Sales Division of General Aniline & Film Corp., 435 Hudson Street, New York 14. Information is presented on the functional properties, chemistry and applications of this series of anionic surfactants. "Igepons" are used in detergent bars (they are compatible with soap), in shampoo formulations, mechanical and manual dishwashing compounds, in built heavy duty laundry detergents, and in a number of industrial detergents. They have a number of non-detergent industrial applications.

#### Safety Wall Chart Offered

A wall chart with instructions for the proper handling of chlorate and perchlorate chemicals is being offered by American Potash & Chemical Corp., 3000 West Sixth St., Los Angeles 54. Chlorates and perchlorates are used in weed killers, defoliants, bleaches, and other chemical specialties.

The chart covers precautionary and safety rules pertaining to personal conduct and materials processing and handling opera-

#### Insecticide Testing Book

A new manual, "Methods of Testing Chemicals on Insects," has just become available. The book consists of 14 monographs dealing with effects of chemicals on the physiology of insects, methods of measuring these effects, and general techniques for applying or ingesting the chemicals under test conditions. A second volume is in preparation which is to be devoted to special purpose testing techniques such as wood treatment, repellents, etc.

The following subjects are treated in the present volume: "Surface Phenomena in Relation to Insect Cuticle," by W. M. Hoskins; "Penetration of Insect Cuticle," by A. G. Richards; "Measurement of Insect Respiration," by R. Craig; "Electrophysical Preparations in the American Cockroach," by K. D. Roeder and Elizabeth A. Weiant; "Study of the Circulatory System in Insects," by R. L. Patton; "Radioactive Tracer Methods," by A. W. Lindquist; "Resistance Studies," by W. V. King; "Methods of Topical Application and Injection," by R. L. Metcalf; "Feeding and Drinking Methods," by F. W. Fisk; "Dipping Methods," by A. H. McIntosh; "Precision Spraying," by C. Potter and M. J. Way; "Precision Dusting," by J. E. Dewey; "Testing Fumigants," by R. T. Cotton; and "Synergism and Antagonism," by N. Turner. Literature references and a subject index are appended.

Publication of this manual

was originally planned by the Entomology Subcommittee, Chemical-Biological Coordination Center of the National Research Council. When the center was discontinued all rights and responsibilities were relinquished to the editor.

Methods of Testing Chemicals on Insects," volume I, by Harold H. Shepard, editor. Published by Burgess Publishing Co., Minneapolis 15, Minn., 1958. Hard covers, 356 pages, price \$5.00.

#### **Specialties Formulary**

Modern Manufacturing Formulary by Emil J. Berlanger, Chemical Publishing Co., New York, 1958. Cloth bound, eight and three quarter by five and a half inches, 399 pages, price \$10.00.

Household chemical specialties, personal products, and insecticides are included among the wide range of formulations collated in this volume, which covers foods, flavors, medicinals, soft drinks, and a host of other specialties. In addition to the actual formula the author supplies for each product information on the manufacturing procedure and directions for use.

Standards and labeling rules as set down in the Food, Drug and Cosmetic Act of 1938 are the subject of an appendix. A classified directory giving sources of supply precedes the well organized index.

According to its sub-title the book has been "compiled for chemists, manufacturers, pharmacists, technicians and students. It should doubtless prove a useful



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### PRODUCTION Clinic

#### Naphthenic Acids Data

A new technical bulletin on "Sunaptic" brand high molecular weight naphthenic acids has just become available from Sun Oil Co., Industrial Products Department, 1608 Walnut Street, Philadelphia 3. These acids find use in emulsifiers for cutting oils, metal degreasing and truck washing compounds, in corrosion inhibitors, and in other industrial specialties.

#### New "Fillmaster" Unit

A new package filling machine called "Fillmaster Uniflow" has been introduced by Stuyvesant Engineering Co., Lyndhurst, N. J.

Designed especially for fragile products, the machine fills up to 60 packages per minute depending on the product and package size. All types of containers or bag, can be handled by the machine including packages up to a two pound capacity.

An outstanding feature of the unit, according to its manufacturer, is an electrically operated device which allows for gentle and free flowing passage of the product through the machine. Rapid change-over from one product or



package to another is said to be easily accomplished.

#### **New Nozzle Connectors**

Split-eyelet connectors for spray nozzles of all types were introduced September by Spraying



New No. 7521 split-eyelit connector of Spraying Systems Co., Bellwood, Ill., provides leak-proof mounting for spray nozzles.

Systems Co., Bellwood, Ill. Said to provide leak-proof connections and simplified mounting, the connectors are designed for liquid, gas, and air lines, and for pressures up to 250 pounds per square inch. Other equipment may also be mounted to lines with the connectors.

Additional information about the product is in no. 7521 split-eyelet connector bulletin No. 93 available from the company at 3217 Randolph St., Bellwood.

#### New Horix Filling Machine

A new filling machine for under surface filling on foamy products is available from Horix Manufacturing Co., Pittsburgh. Called the Horix Under-Surface Filler and designated model HB-BS-9, the unit is claimed to do an outstanding filling job on gallon and half-gallon "F" style cans with a 300 per cent increase in speed over top fill on a very foamy product.

A double action valve is used in such a way that the filling tube is generally withdrawn from

the container so that the entering liquid is always just below the liquid surface. This method is in contrast to bottom filling where the tube remains stationary at the bottom of the container for the complete filling cycle.

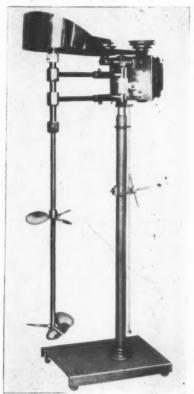
The filler may also may be used as a standard gravity filler. Complete information is available from the company, Corliss Station, Pittsburgh 4, Pa. (See cut p. 143)

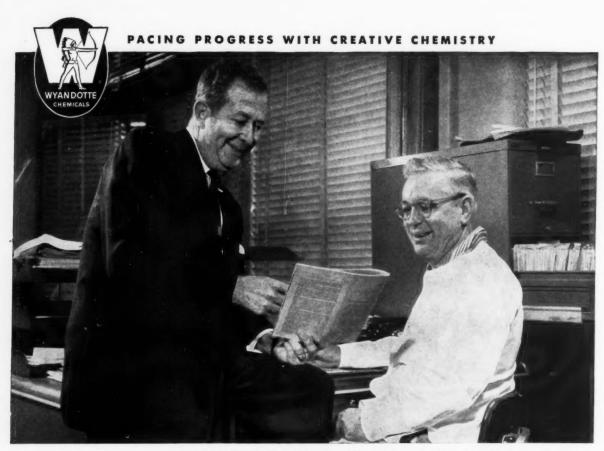
#### Portable Mixer Available

A three-speed portable mixer for stirring, blending, mixing, and agitating is being marketed by the Terriss division of Consolidated Siphon Supply Co., New York.

Equipped with roliers for portable operation, the unit has adjustable propeller and stand shafts for settings for "above-and-below" floor level tanks. The mixer is fitted with standard belt drive for propeller speeds of 175, 325, and 575 r.p.m.

Complete information is contained in the mixer and agitator bulletin available from the company, 22 Wooster St., N. Y. 13.





Ross Hastie, Vice President, Hilton-Davis Chemical Company, Cincinnati, Ohio, discusses the Pluronic Grid with T. A. Langstroth, Director of Research and Development for Pigments and Flushed Colors.

## "Wyandotte's Pluronic Grid approach is a real aid to research"

"In management, in purchasing, in development, we recognize that research time is priceless," says Ross Hastie, Hilton-Davis Chemical Company, Cincinnati, Ohio, a leading maker of intermediates, dyes, and flushed pigments for the ink, paint, and textile industries.

"To us, the Wyandotte Grid approach for evaluating the Pluronic series is a definite advance in research techniques, and a very timely one. It eliminates random evaluation of unrelated chemicals . . . suggests in advance the properties a given Pluronic grade will contribute.

"It should conserve valuable research and development time for chemists in any industry . . . enable them to learn more about their own products, and stimulate new-product thinking.

"We look forward to putting the Grid to continued good use . . . and believe each experience with it will add to our bank of product information for future needs."

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## Wyandotte CHEMICALS

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## NEW Patento

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine:—MacNair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

No. 2,848,420. Nontarnishing Detergent Compositions, patented by Charles H. Schramm, Hillsdale, N.J., assignor to Lever Brothers Co., New York. Covered is a detergent composition essentially of a water-soluble substance selected from the group consisting of polyphosphates and synthetic organic nonsoap anionic and nonionic detergents which in aqueous solution tarnishes copper and copper and nickel alloys and a tarnish inhibitor in an amount to lessen the tarnishing action of the substance and having the general formula:

where at least one R is an organic radical selected from the group consisting of hydrocarbon and granamine radicals having at least three carbon atoms, and the remaining R radicals are selected from the group consisting of hydrogen, hydrocarbon, and granamine radicals.

No. 2,846,460. Process for Recovering Chemicals from Aqueous Soap Solutions, patented by Dwight B. Mapes and Truman P. Moote, Jr., Tulsa, Okla., assignors to Pan American Petroleum Corp. In a process for the recovery of a substantially pure alcohol fraction from a 20 to 50 weight percent aqueous carboxylic acid soap solution comprising carbonyls and alcohols of the type found in the hydrocarbon phase produced by the Fischer Tropsch synthesis and contaminating amounts of dissolved hydrocarbons, said soap being derived from a mixture of fatty acids having an average molecular weight ranging from about 85 to about 135, wherein said soap solution is contacted with a liquid light saturated hydrocarbon having from 3 to 4 carbon atoms, the improvement is claimed which comprises first extracting said soap solution with said light hydrocarbon to said solution of from about 1:10 to 1:4 at a temperature ranging from about 8° F. to not more than about 5° F. below the critical temperature

of said light hydrocarbon and at minimum pressures ranging from about 25 to 50 p. s. i. for the C4 hydrocarbons to about 140 p. s. i. for the C6 hydrocarbon, said extraction being carried out in an extraction being carried out in an extraction zone of not more than about one stage, thereafter subjecting the raffinate from said extraction, which raffinate is now substantially free from contaminating hydrocarbons, to a second extraction step in a multi-stage extraction zone having not more than about ten stages, wherein said raffinate is extracted with α liquid light hydrocarbon having from 3 to 4 carbon atoms, the volume ratio of said light hydrocarbon to said raffinate ranging from about 5:1 to about 2:1, at a temperature of from about 2:1, at a temperature of from about 5:5 to about 140 p. s. i. for the C4 hydrocarbon and from about 20 to about 50 p. s. i. for the C4 hydrocarbon to yield a raffinate containing alcohols substantially free of said contaminating hydrocarbons and carbonyl compounds.

No. 2,849,163. Dispensing Valve Having Dip-Tube Suspension Means, patented by Jack W. Soffer, St. Louis, and Eugene H. Neupert, Ferguson, Mo., assignors to Development Research, Inc., St. Louis, Mo. This patent covers in a valve for a pressure dispenser whose contents are discharged through flow-conducting means within the container, means to secure such flow-conducting means in communication with such valve, comprising a resilient valve seat having a depending tubular portion in the path of flow to such valve, a hollow, substantially rigid walled member in communication with such flow-conducting means and having an upper wall inwardly adjacent said depending tubular portion of such valve seat, and a substantially rigid annulus having a plurality in inwardly-presented spaced retaining projections, said annulus disposed spacedly about the radially outward of said rigid walled member and the depending portion of said valve seat being interposed therebetween.

No. 2,846,398. Antiseptic Detergent Composition, patented by David J. Beaver, Richmond Heights, and Paul J. Stoffel, St. Louis, assignors to Monsanto Chemical Co., St. Louis, Mo. The invention covers a cleansing composition comprising a surface-active detergent base selected from the group consisting of anionic and non-ionic organic surface-active detergents and mixtures thereof and an antiseptic amount of a polyhalogen substituted carbanilide of the structure

wherein a, b, c and d are selected from the group consisting of hydrogen and halogen and wherein at least one of the atoms a, b and c is halogen, the halogen substituents of the said carbanilide being selected from the group consisting of chlorine and bromine.

No. 2,848,356. Fungicides, Their Preparation and Use, patented by James E. Pritchard, Bartlesville, Okla., assignor to Phillips Petroleum Co. This patent teaches the process for the preparation of a fungicidal composition comprising reacting a metal salt of a carboxylic acid containing an active halogen atom selected from the group consisting of chlorine, iodine and bromine being positioned on a carbon atom alpha to an activating group and not over 20 carbon atoms with a polymer of a compound having a structure selected from the group consisting of

$$(R') \mapsto R$$
 
$$(C = CH_2)_{x}$$
 
$$R = C = CH_2)_{x}$$
 and 
$$(R') \mapsto R$$
 
$$C = CH_2)_{x}$$

wherein n is an integer selected from the group consisting of 1 and 2, R is selected from the group consisting of H and CH<sub>5</sub>, and each R' is individually selected from the group consisting of nitro, alkoxy, halo, hydroxy, cyano, aryloxy, aryl, haloalkyl, alkaryl, hydroxyaryl, hydrogen, and alkyl, not more than 12 carbon atoms being present in the total of said R' groups, to form a water-insoluble quaternary metal salt of the polymer.

No. 2,846,321. Polishing Composition and Method, patented by Paul E. Wenaas, Clarendon Hills, and Carl S. Miner, Jr., Winnetka, Ill., assignors to Simoniz Co., Chicago. This patent claims in the preparation of a polish composition including a solvent and a wax both dissolved and dispersed therein, the method comprising; preparing a concentrated wax solution by completely dissolving the wax in a portion of solvent at an elevated temperature sufficiently high to bring about said dissolving and adding said concentrated solution to a cooled portion of solvent, the temperature of the cooled portion of solvent plus the added concentrate being maintained substantially constant during the addition, the total amount of solvent being insufficient to dissolve all the wax at ordinary room temperature in order that a part of the wax will be precipitated in discrete particles.

No. 2,849,323. Self-Propelling Food Mixture, patented by Edmond G. Young, Mickleton, N.J., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del. Described is a self-propelling food mixture confined under pressure in an aerosol dispensing container, said mixture consisting essentially of an aerosol-dispensible edible food formulation containing water as a constituent and a propellant for said food formulation

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which propellant is a member of the group consisting of perfluorocyclobutane which is mainly in liquefied form and mixtures of said perfluorocyclobutane with at least one of chlorotrifluoromethane, tetrafluoromethane and chloropentafluoroethane in a minor proportion sufficient to increase the pressure in the container up to about 40 to about 90 pounds per square inch gage at 70° F.

No. 2,847,385. Detergent Soil-Suspending Composition Containing Carboxymethyl Dextran, patented by Malvern J. Hiler, assignor to Commonwealth Engineering Co. of Ohio, Dayton. A detergent-soil suspending composition is revealed consisting essentially of a synthetic soapless detergent selected from the group consisting of anionic and non-ionic detergents and carboxymethyl dextran containing an average of 0.2 to 3.0 carboxymethyl groups per anhydroglucose unit in an amount of from 0.1% to 5.0% on the combined weights of the detergent and carboxymethyl dextran.

No. 2,846,400. Detergent Compositions, patented by Alan Dalton Scott, Bebington, and Brian John Hazzard, Birkenhead, England, assignors to Lever Brothers Co., New York. Revealed is a detergent composition consisting essentially of an alkylaryl sulfonate detergent selected from the group consisting of sodium dodecyl toluene sulfonate and sodium dodecyl benzene sulfonate and from about 1% to about 50% by weight of the detergent of an alkanolamide which will improve the persistance, during washing, of the lather given by aqueous solutions of the composition, said alkanolamide being selected from the group consisting of para - tertiary - octylphenoxyacetethanolamide, and n-decyloxyacetethanolamide, and n-decyloxyacetethanolamide.

No. 2,846,457. Decolorized Detergents and Methods of Manufacture, patented by John C. Zemlin and Clarence K. Tabata, St. Paul, assignors to Rayette, Inc., St. Paul, Minn. The method of manufacturing bleached sulfate and sulfonated detergent substances claimed here comprises neutralizing the free acid form of the sulfated and sulfonated detergents by slowly adding with agitation said acid detergents to a sufficient quantity of a strongly alkaline neutralizing solution, having a pH well above 8, containing an alkali metal chlorite salt dissolved therein, to continuously maintain the reaction mixture alkaline at a pH above about 8 during said addition, until the addition of the acid material to the alkaline neutralizing solution is substantially completed.

No. 2,844,506. Fungicidal Compositions, patented by Roy H. Jenkins, Jr., assignor to Hercules Powder Co., Wilmington, Del. The patent teaches a process of preserving a material normally susceptible to fungicidal attack which comprises applying to the material a minor amount of a fungi-

cidal composition comprising an active fungicide selected from the group consisting of the copper and zinc salts of para-substituted lower alkyl benzoic acids and a fungicidal adjuvant therefor.

No. 2,841,521. Insecticidal Compositions and Method of Combating Insects, patented by Walter W. Abramitis, Downers Grove, Ill., assignor to Armour and Co., Chicago. The invention consists of an insect-repelling composition, comprising a mixture of pyrethrin-type insecticide and a condensation product represented by the following type formula:

where R is an aliphatic group containing from 6 to 22 carbon atoms and x and y are integers having a sum of from 5 to 60, said mixture containing a larger proportion of said condensation product than of said pyrethrintype insecticide.

No. 2,846,401. Granular Detergent Compositions, patented by Thomas M. McCarthy and Arnvid S. Roald, assignors to Procter & Gamble Co., Cincinnati. This patent teaches a process of improving the resistance to change, during storage under humid atmospheric conditions, in the free-flowing and non-caking character of freshly spray dried granular detergent compositions consisting essentially of a water soluble anionic synthetic detergent of the sulfuric reaction product type and hydratable alkali metal phosphates consisting essentially of a mixture of tripolyphosphate, pyrophosphate, and orthophosphates, which comprises agitating said spray dried granules and simultaneously spraying on the surface thereof an aqueous solution containing at least one inorganic sulfate of a polyvalent metal selected from the group consisting of magnesium, zinc, and aluminum, in amount equivalent to from about 1% to about 10% of anhydrous inorganic sulfate based on the spray dried granules and sufficient to raise the moisture content of the composition to an amount within the range of about 12% to about 25%.

Also claimed is a spray dried heavy-duty synthetic detergent granule possessing improved resistance to change, during storage under humid atmospheric conditions, in the free-flowing and non-caking character of the freshly spray dried granule detergent compositions, consisting essentially of from about 20% to about 40% by weight of water soluble anionic synthetic detergent of the sulfuric reaction product type, from about 10% to about 60% by weight of alkali metal phosphates including sodium tripolyphosphate and orthophosphate reversion products thereof, from about 12% to about 25% moisture, and from about 10% to about 30% by weight of sodium sulfate, said granules being characterized by a coating comprising hydrated double salts of said phosphates formed from sodium and from at least one polyvalent metal selected

from the group consisting of magnesium, zinc, and aluminum, the amount of polyvalent metal present being equivalent to an amount of anhydrous sulfate of said metal within the range of about 1% to about 10%.

No. 2,849,324. Polishing Composition, patented by Marvin E. Cox, Oaklawn, Ill., assignor to Simoniz Co., Chicago. A polish composition is patented consisting essentially of: a wax; a solvent for said wax, a portion of the wax being in the form of small, discrete, undissolved particles; and a discontinuous phase in small droplet form of an aqueous solution of a solute of the class consisting of calcium chloride, sodium thiosulfate, sodium nitrate, copper nitrate, urea, magnesium chloride, sodium chloride, potassium bromide, magnesium sulfate, lithium chloride and dibasic ammonium citrate.

#### New Ertel Catalog

A new 20-page catalog covering its full line of bottle fillers, mixers, filters, filter sheets, and pumps has recently been released by Ertel Engineering Corp., Kingston 6, N. Y. The new catalog, designated "Catalog 58," is printed in two colors and includes reasons for filtering and a guide to proper filter sheets for such products as soaps, chemicals, pharmaceuticals, lotions, tonics, etc. Also covered are flow rates through various grade filter materials, as well as descriptions of the various filters, portable mixers, hand cappers, portable and semi-automatic bottle fillers, and other liquid handling equipment manufactured by the firm.

#### Mixco Offers Folder

An illustrated six-page folder describing laboratory facilities available for any project involving fluid mixing is available from Mixing Equipment Co., 158 Mt. Read Blvd., Rochester, N.Y., it was announced recently.

Special emphasis in the folder is given to the pilot-plant mixing operations of the firm's hazardous materials laboratory and the uses of its new continuous multistage contactor. General information also is given about industrial mixing research and studies at the laboratories. You get the most from ... Monsanto

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## Products and PROCESSES

#### **BPC** Barrier Cream

A water miscible barrier cream containing soap is among formulations recently published by the barrier substances subcommittee of the British Pharmaceutical Codex Revision Committee. Its composition follows:

Parts
20
3
12
6
2
1
0.2
0.5
to 100

#### **Decontaminant Cream**

Radio-active fission products can be removed from surfaces, clothing, and skin by a cream consisting of an alkali metal or ammonium salt of polyamino-polycarboxylic acid complexing agent known to yield aqueous solutions of high viscosity. Such a cream may also incorporate a polyhydric alcohol, such as glycerol, and/or in some cases a lower aliphatic alcohol, such as methylated spirit. For the decontamination of human skin from radio-active deposits the cream is spread on the skin and then flushed away with water. British patent 790,306, 1958, Brentford Soap Co., Brentford, Middle-

#### **Sprayed Phosphate Syndet**

Low density polyphosphates or polymetaphosphates form the base of a washing, cleaning, and rinsing agent. Such phosphates are obtained from an aqueous solution by direct or indirect spray drying process. They are then compounded with other detergent ingredients which were obtained by a separate spray drying operation. The finished product may contain from 70 to 90 per cent alkali polyphosphates or polymetaphosphates together with other active washing agents,

cellulose derivatives, optical clarifiers, silicates, and other additives. British patent 793,256, 1958, W. Wein, Wiesbaden, Germany.

#### New Musk from P & S

A new macrocyclic musk has been developed by N. V. Polak & Schwarz's Essencefabrieken, Zaandam, Holland, and is available from Polak & Schwarz, Inc., New York 14. "Musc 781" is claimed to combine low price with good stability, fixative power, blending and odor characteristics.

A colorless liquid, the compound is reported to cause no color changes in either soap or creams, and to be readily soluble in the commonly used solvents. Its odor properties are described as musklike, combined with a suggestion of santalol and a fruity note. "Musc 781" is said to yield odor effects at all stages of the blended perfume's evaporation.

#### Cationics in Shampoos

A cationic surface active agent formulated with a nonionic detergent yields a shampoo said to exhibit good cleansing and foaming action. The presence of the cationic assures good gloss and manageability of the hair. Imidazoline derivatives are suggested as the cationic component of such formulations. British Patent 793,786; 1958; Ciba Ltd., Basle, Switzerland.

#### **Neutralizing Spent Lye**

A soap of satisfactory quality is obtained by reacting glycerides in a fatty oil with free caustic alkali in spent soap lye under conditions of vigorous and sustained agitation. This is accomplished by mixing a stream of the spent lye from a soap-making process with a stream of fatty oil. The mixture is vigorously agitated and glycerides in the oil are reacted with the alkali until substantially all the

free caustic has been neutralized. The free fatty acid in the oil may be insufficient to neutralize more than a minor proportion of the caustic alkali present in the spent lye. British patent 794,428, 1958, Unilever Ltd., Port Sunlight, England.

#### **Improved Detergent Bars**

Detergent bars containing a synthetic detergent, soap, and also starch as a binder, are improved in texture, consistency, and "feel" by the use of gelatinized starch. A milled detergent bar with a characteristic soap-like feel is claimed to result from a formula comprising sodium soap and normally solid anionic synthetic detergent plus gelatinized non-waxy starch as a filler. The gelatinized starch is characterized by the disappearance of anisotrophy and constitutes not less than 15 per cent and not more than 70 per cent of the total weight of the bar. British patent 796,627, 1958, Thomas Hedley & Co., Newcastle-on-Tyne, England.

#### Oxo Alcohol Based Syndets

"Surfactants from Higher Oxo Alcohols" is the title of technical bulletin No. 16 just published by Enjay Co., 15 West 51st Street, New York 19. Present and potential uses of these surface active agents are tabulated and the relative performances of higher oxo alcohol based surfactants are compared with those of leading competitive products.

Among anionics, sodium tridecyl sulfate is claimed to show superior wetting and emulsifying properties and good synergistic detergent action. Sulfated tridecyl ethoxylates are said to be meeting with growing interest. In the nonionics group the tridecyl alcohol ethoxylates are credited with excellent synergistic foam boosting and good wetting and emulsifying properties. Tridecyl alcohol-based quaternaries are said to exhibit very good antibacterial action in zone of inhibition studies.

#### NEW kid glove treatment helps our hottest bomber keep cool

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Everything about this high-performance aircraft, right down to its gleaming metal skin, says "speed." This high-luster, low-friction surface has been called one of the most vital achievements in modern aircraft development.

To maintain this precision skinwithout damaging or scratching the special metal alloys-Convair has specified a new polish-cleaner called Once!. † The only abrasive in Once! is Snow-Floss, a unique polishing grade of Celite. Because of the porous, thin-walled structure of its diatomite particles, Snow-Floss never scratches. Each particle collapses like a microscopic buffer, removing foreign matter and maintaining a precision smoothness that lasts.

Snow-Floss provides easier application and rub-off, too. Highly absorptive, it soaks up and retains dirt and grease films that would otherwise resist rub-off and reduce sheen. This explains why it has gained acceptance as the major abrasive in all types of polishes.

Snow-Floss and the other Johns-Manville Celite grades produced for polishes are carefully controlled from bag to bag. Find out which fits your needs . . . call your nearby Celite engineer or write direct. Johns-Manville, Box 14, New York 16, N.Y. In Canada, Port Credit, Ont.

°Celite is Johns-Manville's registered trade mark for its diatomaceous silica products. \*Once! is a registered trade mark of the American Silicone Company, Englewood, Colorado.

00 YEARS OF QUALITY PRODUCTS...1858

# SOAP PLANT Observer

#### By John W. McCutcheon

Consulting Chemist

IXING and blending adaptable to continuous processing of detergents and household chemical specialties may improve both efficiency and economics of such operation. Like the continuous filters discussed in last month's column, they may be the key to packaged plants for the industry.

The compounding of metal cleaners, for instance, involves the mixing of solids, such as phosphates, silicates, and caustic soda. Similar blending of solid ingredients is required in the manufacture of dairy cleaners, some types of industrial soap powders, cosmetic products such as bath salts, and many other specialties. In certain processes such blending may include a liquid which reacts to form a solid. For example, a metal cleaning compound based on the raw materials enumerated above may incorporate dodecylbenzene sodium sulfonate, which is a solid. As an alternative it may include dodecylbenzene sulfonic acid, a liquid which reacts with caustic soda to form the same material in situ.

In some instances, the use of a liquid results in a different and possibly better end product. For example, a dry powdered hand soap containing corn meal may be made by dry mixing the meal and soap powder. However, a better product results if a liquid fatty acid is first blended with the meal and then reacted with alkali. This type of solid/liquid blending process impregnates the meal more uniformly with soap than any dry mixing method would. This type of operation is quite commonly called for and continuous blenders should be designed to handle solid/liquid blending if they are



intended for diversified processing plants.

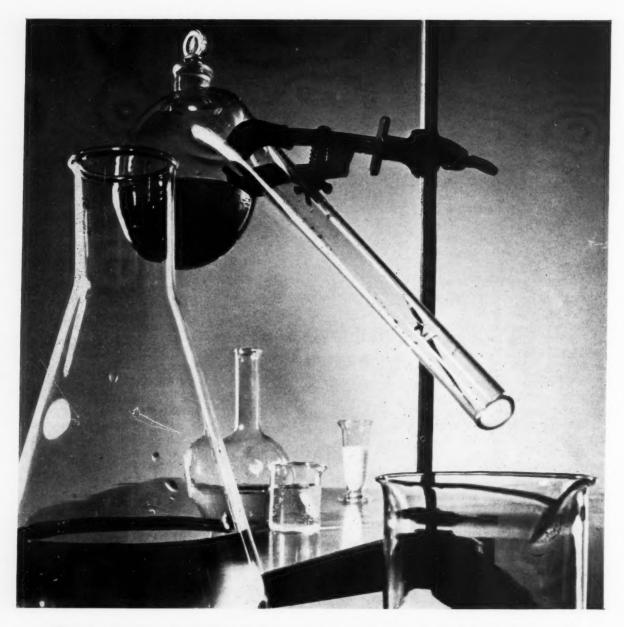
In some phases of chemical manufacturing the feed may consist entirely of liquids which are blended to yield a solid or semisolid end product. For example the blending of a concentrated caustic soda solution with fatty acids yields a soap. Blending operations of this type must be engineered for heat transfer because the reaction involved is an exothermic one. The rise in temperature may be helpful by keeping the product in a plastic or semi-plastic state as in the case of soap. However, it may become a nuisance factor as, for instance, in the sulfonation of dodecylbenzene, where it may cause local overheating and charring of the product. Design of blending equipment is particularly critical in the fields of liquids to solid processing and such equipment is generally not versatile. Machinery designed to make soap from fatty acids may employ a principle entirely different from that used in sulfonation, as will be shown later.

The blending of liquids to yield liquid products is usually a much simpler process. In batch operations it generally consists of a tank and agitator, although continuous blending does involve some special features which will be discussed later in this review.

Some of the mixing processes mentioned here cover reactions. Such equipment could more correctly be called "continuous reactors" rather than blenders. We have stretched our terminology in order to call to our readers' attention certain pieces of machinery which have special applications in the detergent and specialties plant.

In the dry blender for solid/ solid mixing a reaction may not take place. A simple screw conveyor may suffice. If the ingredients react to form lumps, a batch blender may be used. For a continuous operation, however, a uniform flow of materials is required. This is attained only with blenders incorporating special features designed for this purpose. An example of this type is the "Nauta" blender made by Blaw-Knox Co., Buffalo, N. Y. This unit consists of a funnel shaped tank fitted with a screw mixer which performs two simultaneous actions: it rotates on its axis, producing a screw flight which pulls the material out of the cone and to the top of the vessel, while traveling around the sloped walls of the funnel. This device appears well suited to the continuous blending of dry materials or of materials which react to form dry products. This group includes metal, dairy, and laundry cleaners of all types, including dry bleaches.

liquid/solid mixing In where a reaction may change viscosity of the material, continuous blending becomes more difficult. Equipment made under U.S. patent No. 2,085,691, owned by Emery Industries, Inc., Cincinnati, may hold the answer to this problem. This plant produces soap continuously from fatty acids and soda ash by mixing the two ingredients and spraying them under steam pressure into an atomizing chamber where the solid particles are collected and removed on a conveyor belt. The steam is used



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as a source of heat to initiate the reaction.

The "Turbinizer" of U.S. Stoneware Co., Process Equipment Division, Akron, O., holds similar interest. This unit consists of a series of serrated impellers rotating at high speed to exert hydraulic shear on the liquids or pastes forced through the mixing chamber. For the conversion of fatty acids to soaps, for sulfonation or for the formulation of certain creams, this type of machine appears to be very suitable. It does not incorporate a specific means of heat exchange. However, for sulfonation and other processes where a heat problem exists the use of an outside heat exchanger would be feasible with recirculation as a means of control.

(To be Continued)

#### Vinvl Acetate Data

"Polyvinyl Acetate Emulsions" is the title of a 36-page monograph published by Vinyl Products Ltd., Carshalton, Surrey, England. The booklet gives information on manufacture and properties of PVA emulsions, on properties of PVA films, on compatibility, processing, storage, and selection for various applications. An appendix describes test methods used by the manufacturer.

#### **New Ultrasonics Division**

Formation of a chemical process division and appointment of Bernard Schmidt as its manager were announced late last month by Narda Ultrasonics Corp., Mineola, L.I., N.Y. The new division's concern will be research and sales development leading to the installation of ultrasonic units for emulsification, radioactive decontamination, particle size processing, polymerization and other phases of chemical processing, as well as for general maintenance cleaning work in the industry.

Dr. Schmidt brings to this assignment a background of experience in industrial applications of electrostatic equipment.

#### C-P Buyers' Guide

The 1958 edition of "Soap and Detergent Buying Guide" has just become available from Col-



gate-Palmolive Co., 300 Park Avenue, New York 22. The pocket size 36-page illustrated booklet lists and describes properties, applications, and packages of more than 40 products for institutional, industrial, hotel, and other large scale uses.

Included for the first time this year are: "Coleo," a cleaner especially designed for washing surgical instruments and hospital and laboratory glass ware; and "Arctic" surgical liquid soap which contains hexachlorophene. Among aerosol products, the booklet features the "Florient" line of space deodorants and "Kan-Kil" insecticides.

Published by Colgate's associated products department, the guide addresses itself to buyers for hotels, motels, hospitals, schools, power laundries, cleaners & dyers, transportation companies, office buildings and a host of other bulk consumers. It extends an invitation to potential and actual customers to submit their individual cleaning problems to the department's technical research division and gives a list of local sales offices.

#### **Ethylene Glycols Bulletin**

Ethylene glycols, mono-, di-, tri-, and tetra-, are comprehensively reviewed in a 40-page illustrated booklet just issued by Jefferson Chemical Co., 1121 Walker Avenue, Houston 2, Tex. The major outlet for ethylene glycol is the automotive anti-freeze market. In water based formulations of cleaners, waxes and other specialties ethylene glycol acts as a cold weather stabilizer.

In addition to use information the booklet presents data on physical and chemical properties, shipping, analytical techniques, and other pertinent material. A bibliography of 234 references is appended and cross indexed.

### Sewage Sterilization by O

Treatment with ozone may be the answer to large scale sterilization of sewage containing pathogenic organisms and possibly also a feasible solution of municipal water pollution problems. Research and laboratory experiments carried out by the Chemical Corps Biological Warfare Laboratories at Fort Detrick, Frederick, Md., under contract with Armour Research Laboratories, Chicago, indicate this possibility. Ozone has been used for many years as a disinfectant of public water supplies in Europe, and in Philadelphia, Pa., and Whiting, Ind. Details on this new development have been published in an O.T.S. report. Publication No. PB129375 may be purchased from the Photoduplication Service, Library of Congress. Washington 25, D. C., on microfilm for \$3.00 a copy and in photoprint for \$6.30.

#### Picco Resins Data

"Piccolyte" resins are described in text and charts in an eight-page illustrated bulletin just published by Pennsylvania Industrial Chemical Corp., Clairton, Pa. This series of terpene polymers is intended for use in polishes, various wax coatings, leather finishes and a wide range of other specialties. Latest member of the group is "Piccolyte S-115-L", designed for formulations where pale color is essential.

The resins come in solid or solution form and in a variety of melting points.

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Terpene Solvents Waxes

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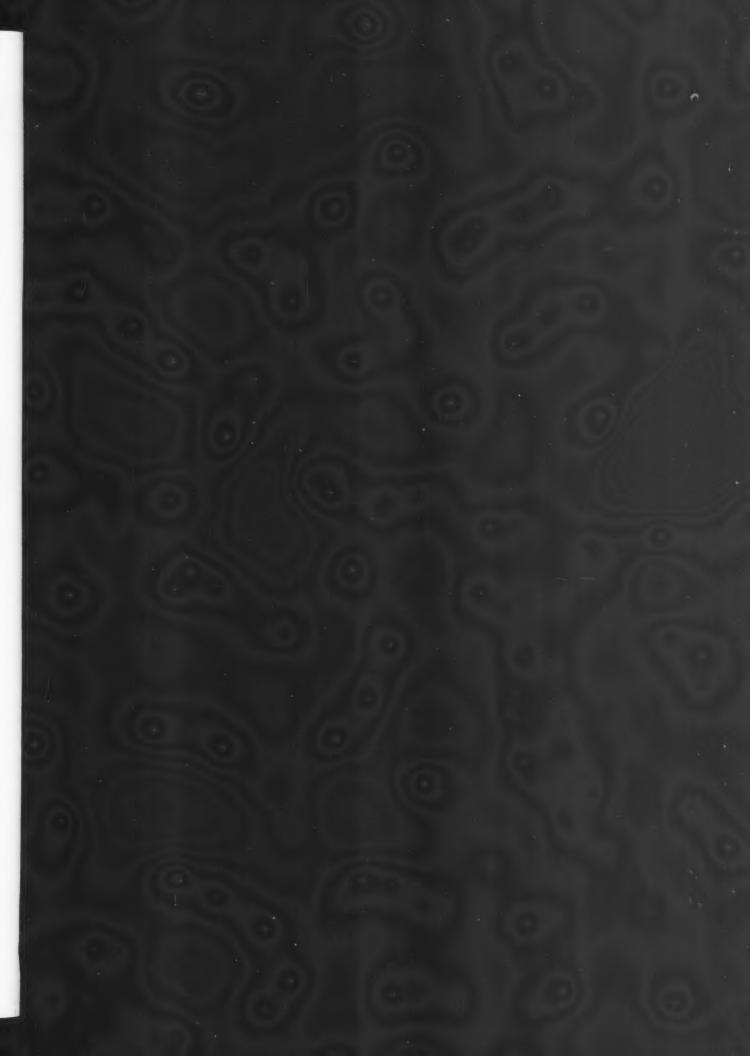


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# News..

PEOPLE · PRODUCTS · PLANTS

Russell H. Young Dies

**Babbitt Declares Dividend** 

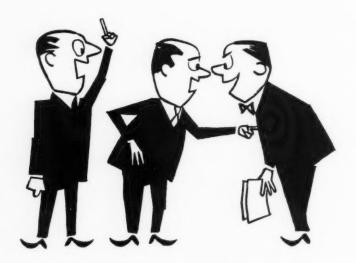
NSSA Coast Show Oct. 19-21

Lever Boosts Advertising

R. Paul Weesner, board chairman, president and treasurer of Bon Ami Co., New York. An attorney, long-time flier and man of diversified financial interests, he was elected to Bon Ami board earlier this year. See story pg. 173.



# STOP! LET'S NOT ARGUE!...



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# News

#### P & G Names Parrette

Paul R. Parrette has been named manager of the newly created trade relations division of



Paul R. Parrette

Procter & Gamble Co., Cincinnati, O., it was announced last month by T. J. Wood, vice-president of sales.

Mr. Parrette has been associated with P & G for 32 years, most recently as head of Procter & Gamble Belge, the firm's Belgian subsidiary. He also has been president and general manager of P & G's Philippine subsidiary. The major part of Mr. Parrette's career with the firm has been in its sales organization.

The new division was created to assist P & G's various sales organizations in maintaining good relations with distributors, retailers, and industrial users with whom the company deals.

#### Frederick LaForge Dies

Frederick B. LaForge, 76, former chemist in the United States Department of Agriculture died last month in Washington, D. C., after a long illness.

Dr. LaForge is noted for his investigation of the chemistry of pyrethrum and the development, in 1948, of a method for the synthesis of pyrethrin-like esters. One of these synthetic esters, allethrin, has been used in insecticide aerosols. For this development Dr. LaForge and co-worker, Milton S. Schechter, received an achievement award from the Chemical Specialties Manufacturers Association and a superior service award from the Department of Agriculture.

A graduate of Princeton University and Berlin University, Dr. LaForge entered the Department in 1915. He retired from government service in 1952 but continued his activities in the Department laboratory for some time afterward.

#### **Bon Ami Names Schwaikert**

Ralph A. Schwaikert has been named vice-president in charge of manufacturing and mining for the Bon Ami Co., New York. He succeeds Jay E. Rand, who has retired but continues as consultant to the company.

Mr. Schwaikert joined the firm in 1953. In his new post he is responsible for operations at Orford Soap Co., Manchester, Conn., and manufacturing and mining facilities in Newark, N. J.; Montreal, Canada; Sydney, Australia; Grafton, N. H.; and Spruce Pine, N. C.

#### **Purex Appoints Two**

The appointments of Ralph D. Vanderlip as western regional sales manager and Clint F. Ragland as division sales manager were announced recently by C. C. Overstreet, national director of sales, Purex Corp., Ltd., South Gate, Cal.

Mr. Vanderlip, formerly Los Angeles division sales manager, now manages sales in the three divisions composing the western region and covering 11 states.

Formerly sales manager of the New Orleans division, Mr. Ragland succeeds Mr. Vanderlip in the Los Angeles post. He has been with the company for 11 years.

#### **Continental Names Mooney**

R. S. Mooney has been advanced to the newly created position of director of sales develop-



R. S. Mooney

ment of the petrochemical department of Continental Oil Co., Houston, Tex., it was announced last month by H. P. Solem, general manager, petrochemical sales.

Mr. Mooney, formerly director of sales promotion, continues at the firm's New York offices. He joined the company in 1954 as a technical services representative.

Also announced was the appointment of Duane F. McFarland to the newly created position of sales development representative of the petrochemical department in New York. Mr. McFarland formerly was city sales manager of marketing in Oklahoma City.

#### **Puritan Names Wright**

George B. Wright has been named district manager for Georgia by Puritan Chemical Co., Atlanta, Ga., it was announced last month by Ted V. Fisher, vicepresident—marketing.

Previously Mr. Wright represented the company in Greenville, S. C. He joined Puritan in 1956 and currently supervises the firm's representatives throughout Georgia, with the exception of Atlanta.

#### NPCA 25th Anniversary Meeting Set for Washington D. C., October 20-23

NEW methods of insect control, the need for advertising and public relations, and a 25-year review of the industry will highlight the silver anniversary convention of the National Pest Control Association at the Statler Hotel, Washington, D. C., Oct. 20 through 23. The formal meetings will be preceded by a board of directors meeting on Saturday, Oct. 18 and by a number of informal social functions on Sunday Oct. 19.

"Silica Dusts in Insect Control" will be discussed at the technical meeting scheduled for Wednesday morning, Oct. 22. The subject will be discussed by the following speakers: Barry I. Tarshis, University of California, Los Angeles; Earl K. Seybert, Davison Chemical Co., Baltimore; Robert J. Norton, Crop Protection Institute, Durham, N. H.; Clayton Wright, C. Wright Associates, Dallas, Tex.; and a speaker from Monsanto Chemical Co., St. Louis.

This panel discussion will be followed by Clarence Hoffman, Entomology Research Division, U. S. Department of Agriculture, speaking on "Research for New Insect Control Methods" and Hamilton Laudani of USDA's Agricultural Marketing Service on "New Applications for Insecticides in Warehouse Pest Control."

The following committeereports will be given: rodent control, by Harlan Shuyler, Conservation Industries, Inc., Kansas City; insecticide committee, by William I. Elo, Elo Exterminating Co., San Antonio, Tex.; and safety committee, by William J. Turrie, Wil-Kil Pest Control Co., Milwaukee.

The morning session, Thursday, Oct. 23, presided over by Dr. Ralph E. Heal, NPCA's executive secretary, will hear the following papers: "Progress Report on Animal Control," by Noble E. Buell, Bureau of Fisheries and Wildlife, U. S. Department of the Interior:

"Industry Significance of Current Trends in Pesticide Regulation," by John Conner of Cummings, Sellers, Reeves, Conner and Kendall, Washington, D. C.; "A Guide to Increased Profits" by Kenneth Weiser, M. R. Weiser & Co., New York; and "Minimum Property Standards of F.H.A. for Protection Against Termites," by W. Beverly Mason, Jr., Federal Housing Administration.

A public relations panel will be presided by Dr. Heal on Tuesday morning, Oct. 21.

The business meeting on Monday morning, Oct. 20, will be presided over by NPCA president J. C. Redd of Redd Pest Control Co., Jackson, Miss. In the afternoon of Oct. 20 Charles D. Cushing of Vogel-Ritt, Inc., will preside over a session entitled "25 years of Progress' in which the following panelists will participate: J. Edwin Sameth, Western Exterminating Co., Newark, N. J.; Robert C. Yeager, Rose Exterminator Co., Cincinnati; Stanley McKenzie. Lake Charles, La.; Dr. John V. Osmun, Purdue University: Lee E. Chambers, Aldridge & Chambers. Inc., Virginia Beach; Charles C. Delk. Delk Pest Control. Fresno. Calif.; and David E. Anderson. Evans Laboratories, Inc., Little Rock, Ark.

#### **New Redram Plant**

Redram Chemical Co., Brooklyn, will move into new quarters at 755 Utica Ave., Brooklyn, N. Y., about Dec. I, it was announced recently by Jerry Marder, president. The facilities will include a new manufacturing plant equipped with cold fill, pressure fill, and nitrogen aerosol filling lines.

Redram manufactures disinfectants, deodorants, and insecticides in aerosol form which are sold through sanitary supply jobbers and under private lable with the "Redram" tradename. Additional information is available from the company.

Before forming the concern in 1956, Mr. Marder was general sales manager for Trio Chemical Co., Brooklyn.

#### Russell Young Dies

Russell H. Young, 58, president of the Davies-Young Soap Co., Dayton, O., died Sept. 20 after an illness of six month. A well-known figure in the American soap industry for more than 25 years, Mr. Young served several terms as a member of the board of the Chemical Specialties Manufacturers Association and the Association of American Soap and Glycerine Producers.

He was graduated from Miami (Ohio) University in 1922 and immediately joined the Davies-Young Soap Co. as a salesman. In 1936, he became sales manager and in 1943 was elected president of the company succeeding his father, the late Fred Young who became chairman of the board. The elder Mr. Young died in 1954 at the age of 83. During World War II, Russell Young was active on several government commissions connected with the war effort.

Mr. Young is survived by his wife, the former Helen Wood; three children, Jane, Caroline, and Clinton; three grandchildren; four brothers, Howard and John, associ-

Russell H. Young



ated with Davies-Young Soap Co., Robert, a Dayton attorney, and Herman, a physician associated with the Mayo Clinic; and his mother, Mrs. Fred Young.

#### **Maintenance Show Set**

The 10th Plant Maintenance & Engineering Show will be held Jan. 26-29 at the Public Auditorium, Cleveland, it was announced recently by Clapp & Poliak, Inc., New York producers of the show. Said to be one of the three largest annual industrial exhibitions in the United States, the show features exhibits of equipment and products designed to keep plants and machinery in operation.

Approximately 400 companies, many that make and market soaps, detergents and other chemical specialties and appliances for applying them for cleaning and maintenance operations, will exhibit at the 1959 show.

In addition to the show, there will be the customary Plant Maintenance & Engineering Conference, which runs concurrently with the show, and at which problems pertaining to maintenance are discussed. Program details for the conference are not available as yet.

#### **Pennsalt Names Tuttle**

Edwin E. Tuttle has been named controller of Pennsalt Chemicals Corp., Philadelphia, at a meeting of the company's board of directors, it was announced last month by William P. Drake, president.

Mr. Tuttle has held various positions in the financial division since joining the company in 1951 as assistant to the chief financial officer.

#### **Breck President on TV**

Edward J. Breck, president of John H. Breck, Inc., Springfield, Mass., appeared as a guest on a Boston television show recently and explained the use of the pastel portraits which have identified the firm's national advertising for a number of years.

The latest painting used by



Edward J. Breck, president of John H. Breck, Inc., Springfield, Mass., points up the merits of "Breck Hair Set Mist" to Miss Julie Dane at the conclusion of his recent appearance on the "For Women Only" show telecast on WHDH-TV, Boston. Miss Dane is mistress of ceremonies for the television series.

Breck in advertising its "Hair Set Mist" was shown on the telecast. Marie Kelly, who modeled for the portrait which was number 100 in the series, also appeared on the show.

According to Mr. Breck, the paintings have been reproduced in advertising in more than two billion individual magazines since 1946.

#### **Changes Marketing Unit**

Major changes in the marketing organization of the dyestuft and chemical division of General Aniline & Film Corp., New York, were announced last month by Harold G. Shelton, director of marketing of the division.

A feature of the new organization is the increase of from two to eight product managers, each responsible for a given line of products. Product managers are responsible for much of the creative work involved in sales development of their respective product lines and are supported by services of the division. These eight groups, four each in General Dyestuff Co. and Antara Chemicals, are the basis of the division home office marketing operation supporting the line sales organization.

Four staff groups support the product managers. These include one headed by a technical manager who coordinates research and product development with sales; another by an advertising manager who develops advertising and sales promotion programs; a third with a manager of sales development in charge, who assists the product managers in the introduction of new products, development of new markets for existing products, and acts as general sales consultant to the product managers and field salesmen; and a fourth headed by a manager of sales administration who supervises the training of sales personnel and coordinates administrative services.

#### Webster Heads Appeal Div.

Fred W. Webster, vice-president of van Ameringen-Haebler. Inc. New York, and president of the firm's Canadian associate, is serving as chairman of the cosmetics and toilet goods division in the appeal for funds for the Sister Elizabeth Kenny Foundation.

Mr. Webster's chairmanship was announced last month by Walter E. Kolb, general chairman of the fund appeal.



FOR ALL DETERGENT FORMULATIONS



Over 40 PQ products (liquid and dry) are available for your selection to satisfy specifications for effective, economical builders to be used in flake, liquid, powdered or spray dried detergents.

PQ Silicates add excellent dirt-removing properties; they prevent the redeposition of removed soil, they protect metals against corrosive attack . . . all these at lower costs.

Tell us your problems—perhaps we can be helpful. Your inquiries are invited.

Some of the PQ Silicates of interest to detergent manufacturers and formulators.

NAMES	% RATIO	%Na <sub>2</sub> 0	%SiO <sub>2</sub>	BAUME 68°F.
LIQUID SIL	CATES			
N	Na <sub>2</sub> 0:3.22SiO <sub>2</sub>	8.90	28.7	41.0°
RU	Na <sub>2</sub> 0:2.4SiO <sub>2</sub>	13.8	33.1	52.0°
C	Na <sub>2</sub> 0:2.0SiO <sub>2</sub>	18.0	36.0	59.3°
B-W	Na <sub>2</sub> 0:1.60SiO <sub>2</sub>	19.5	31.2	58.5°
Kasil #1	K <sub>2</sub> 0:2.50SiO <sub>2</sub>	7.90 K <sub>2</sub> O	19.8	28.4°
Kasil #6	K <sub>2</sub> 0:2.10SiO <sub>2</sub>	12.45	26.2	40.3°
PQ DRY SIL	ICATES			
G	1:3.22	19.40	62.5	sodium trisilicate
GD	1:2.00	27.50	55.0	sodium disilicate
SS-C Pwd.	1:2.00	32.70	65.4	sodium disilicate
Metso Anhydrous	1:1*	51.00	45.5	sodium metasilicate anhydrous
Metso Granular	1:1*	29.0	28.7	sodium metasilicate pentahydrate
Metso 99	3:2*	36.70	24.2	sodium sesquisilicate hydrated
Metso 200	2:1*	60.80	27.5	sodium orthosilicate concentrated
Kasil SS Pwd.	1:2.50	28.3 (K <sub>2</sub> 0)	70.7	powdered potassium silicate

\*Molecular Ratio

Complete details on PQ Silicates available in Bulletin 17-1.

Star



#### PHILADELPHIA QUARTZ COMPANY

1152 Public Ledger Building, Philadelphia 6, Pa.

PQ SOLUBLE SILICATES

Associates: Philadelphia Quartz Co. of Calif. Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada Distributors in over 65 cities

PQ PLANTS: ANDERSON, IND., BALTIMORE, MD., BUFFALO, N. Y. CHESTER, PA., JEFFERSONVILLE, IND., KANSAS CITY, KANS., RAHWAY, N. J., ST. LOUIS, MO., UTICA, ILL.

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SOAP and CHEMICAL SPECIALTIES

#### **CSC** Appoints Two

Walter A. Bauer has been named manager of the Cleveland district of Commercial Solvents





W. A. Bauer

er R. W. Breidenbach

Corp., New York, it was announced recently by James V. O'Leary, general sales manager. Formerly St. Louis district manager, Mr. Bauer is succeeded in that post by Robert W. Breidenbach.

Mr. Bauer joined CSC in 1952 as an industrial chemical satesman, and subsequently served in Kansas City, Los Angeles and Chicago. With the company since 1948, Mr. Breidenbach became manager of industrial chemicals in San Francisco in 1951. In 1954 he joined the agricultural sales department as assistant to the sales manager and in 1956 he moved to St. Louis as midwest sales supervisor for agricultural chemicals.

#### Williams in New Post

N. C. Williams has been appointed western regional sales manager for the Lever Division of Lever Brothers Co., New York, it was announced last month by Hugh R. Conklin, general sales manager.

Mr. Williams started with Lever as eastern regional sales manager in 1954, later became assistant sales manager for field operations. Prior to joining Lever, he had been associated for 17 years with Pillsbury Mills, Inc., where he held various sales and sales management posts.

In his new position Mr. Williams is responsible for the sales of Lever soaps and detergents in the firm's Los Angeles, San Francisco, and Denver sales districts. He is well acquainted with his new

territory since he spent two years in the west as assistant national sales manager for Pillsbury.

### Yardley Appoints Wilken

Gene D. Wilken has been appointed to the newly created position of director of marketing of Yardley of London, Inc., New York, it was announced last month by John F. Bales, vice-president of sales. In his new post Mr. Wilken coordinates the functions of the sales, merchandising, and advertising departments.

Previously Mr. Wilken was director of sales for Elizabeth Arden and prior to that was vicepresident in charge of sales for the Tek-Hughes division of Johnson & Johnson.

#### More Lever Advertising

The advertising budget of Lever Brothers Co., New York, will be increased about 10 per cent for 1959 with about half of advertising expenditures devoted to television, it was announced last month by William H. Burkhart, president and chairman. The firm's advertising budget in 1958 amounted to \$85 to \$90 million.

New emergency wet weather kit. designed to keep hair and feet dry in sudden rain or snow, is now being offered as a premium by S. C. Johnson & Son, Inc., Racine, Wis., on behalf of its "Johnson's" wax. The kit, packaged in a compact plastic envelope, may be obtained by consumers by sending a cap liner from the company's "Jubilee" all-purpose wax, or "Stride" floor wax, to Johnson's main headquarters in Racine.



#### Clark DCAT Chairman

Ralph A. Clark, vice-president of J. T. Baker Chemical Co., Phillipsburg, N. J., was elected



Ralph A. Clark

chairman of the Drug, Chemical, and Allied Trades Section of the New York Board of Trade, at the annual meeting, Sept. 15-16, at the Sagamore Hotel, Lake George, N. Y.

Serving with Mr. Clark are William H. Huisking, Charles L. Husking & Co., New York, as vice-chairman, and James Day, Dow Chemical Co., New York, as treasurer; William J. Quinn, Merck & Co., Rahway, N. J., is counsel; and Helen L. Booth, New York Board of Trade, continues as executive secretary.

William J. Schieffelin, III., Schieffelin & Co., New York was named section representative to the board of directors of the parent organization.

Named to the executive committee for three-year terms were:
Robert E. Horsey, Givaudan-Delawanna, Inc., New York; W. Ward Jackson, Commercial Solvents Corp., New York; Robert H. Kampschulte, Celanese Corp. of America, New York; F. J. Oertel, Esso Standard Oil Co., New York; Evan R. Spalt, Ortho Pharmaceutical Corp., Raritan, N. J.; and E. Lloyd Bernegger, Bristol-Myers Co., New York. Re-elected for the same period was Griffin Crafts, J. W. Wilson Glass Co., New York.

Mr. Clark, who joined Baker 34 years ago, succeeds W. Boyd O'Connor of Ayerst Laboratories division of American Home Products Corp., New York.



# Calcofluor\*Whitening Agents

for soaps, detergents, laundry bleaches

#### Complete range—highest quality uniform quality, batch after batch!

Whoever your ultimate customer may be ... whatever the end use for which you need optical whitening agents—depend on American Cyanamid Company to supply you with the right white to build your business. Our vast experience with textile chemicals ... plus rigid quality controls in manufacture and standardization of Calcofluor Whites ... assures excellent reproduceability, batch after batch. This is extremely important in view of the strong whitening power of these products, used in normal concentration range of 0.03% to 0.10%.

The technical service staff of Cyanamid's Dyes
Department is ready at all times to assist you in selecting
the proper Calcofluor White for your product.
For complete information, technical assistance or
samples, contact our nearest office.

	Hue of White on Fabric	Substantivity
Calcofluor White 5B Conc.	slightly greenish blue	cotton, viscose
Calcofluor White 8 Conc.	neutral blue	cotton, viscose
Calcofluor White MR New	slightly reddish blue	cotton, viscose
Calcofluor White M2R New	slightly reddish blue	cotton, viscose
Calcofluor AHF Conc.	neutral to slightly greenish blue	cotton, rayon, m
Calcofluor White SD	slightly reddish blue	nylon, acetata, woot, Arnel, silk
Calcofluor White LD	slightly reddish blue	nyion, acetate. wool, Arnel, silk

WT. N. ARERICAN CYANAMIN COM



AMERICAN CYANAMID COMPANY, DYES DEPARTMENT

BOUND BROOK, NEW JERSE

MBOL TY DYE

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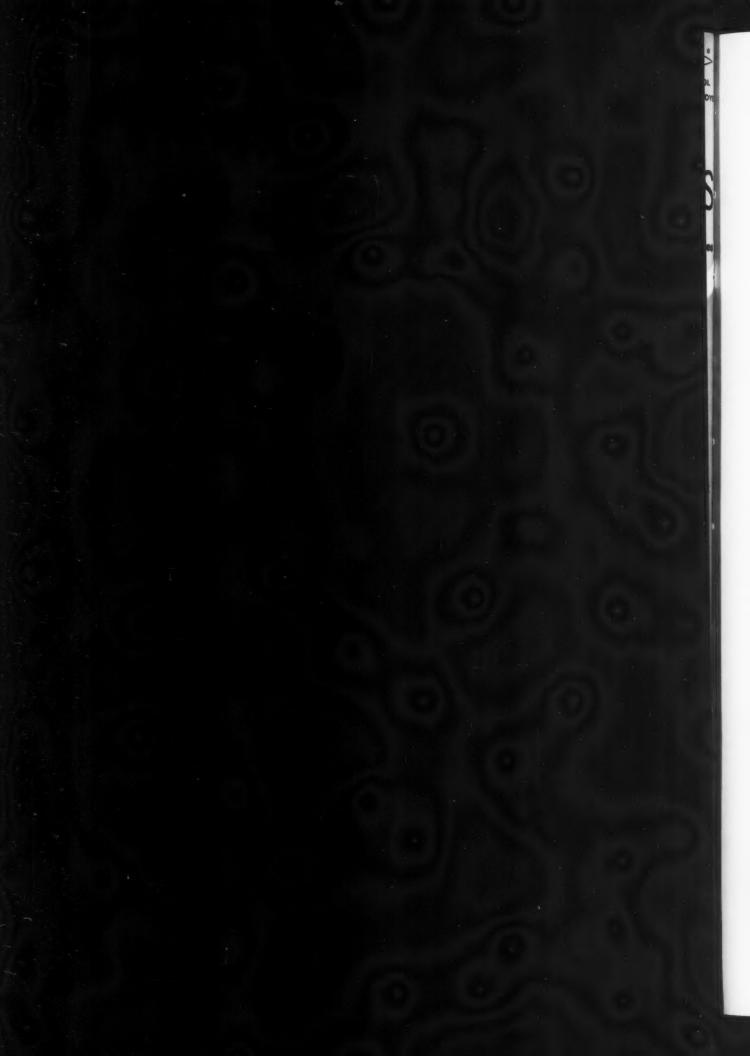
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#### **AOCS Schedules Detergent Symposium**

A SOAP and detergent symposium is scheduled as one of the highlights of the American Oil Chemists' Society's 32nd annual meeting to be held Oct. 20-22 at the Hotel Sherman, Chicago. The all-day symposium under the chairmanship of N. W. Ziels, Lever Brothers Co. and R. H. Rogers, Jr., Swift and Co., is set for Wednesday, Oct. 22.

The partial list of papers to be presented at the meeting includes the following contributions: "Surface Active Agents for Aerosols," Morris J. Root, G. Barr & Co., Chicago; "Nonsurfactant Additives in Syndets," by M. E. Tuvell, Monsanto Chemical Co., St. Louis, Mo.; "Soil-Suspending of Soaps and Detergents," by Walter Marple and A. R. Martin, Whirlpool Corp., St. Joseph, Mich.; "Synthetic Detergents as Dairy and Food Plant Cleaners," by K. C. Tucker, Oakite Products, Inc., New York; "Tallow Alcohol Sulfates," by J. K. Weil, A. J. Stirton, R. G. Bistline, Jr., and E. W. Maurer, Eastern Regional Research Laboratory, Philadelphia; "Optical Bleaches in Soaps and Detergents," by F. G. Villaume, American Cyanamid Co., New York; "Use of Synthetic Detergents in Toilet Bars," by J. W. Mc-Cutcheon, consultant, New York; and "Analysis of Surfactant Mixtures," by J. D. Knight, California Research Corp., Richmond.

The extensive program of general papers to be presented includes "Distribution of Water in the United States as a Function of Hardness," by Lester O. Leenerts, Purex Corp., South Gate, Calif.; "Fatty Acid Analysis of Vegetable Oils by Gas Liquid Phase Chromatography," by N. L. Murty and B. M. Craig, National Research Council, Saskatoon, Sask, Canada.

#### **NSSA Surface Poster**

A new bulletin board poster entitled "Save the Surface and You Save All" is now being distibuted by the National Sanitary Supply Association, 159 N. Dearborn St., Chicago 1. The poster carries information on the care and maintenance of a variety of surfaces including metal, leather, wood, and synthetic materials.

Prepared as a training aid for custodial personnel by NSSA, in cooperation with the Veterans Administration, the poster is available for discribution to maintenance people by their local NSSA member suppliers.

#### Correction

In last month's issue of *Soap* & *Chemical Specialties*, on page 195, in reporting the election of Peter P. Powell, as president; J. C. Sharman as executive vice-president, and E. G. Pearson as a director of Yardley of London (Canada) Ltd., we inadvertently published Mr. Powell's photograph under Mr. Pearson's name, and vice-versa. We are very sorry about

the mix-up, and to set it straight we republish their pictures correctly identified.

#### Weesner Heads Bon Ami

R. Paul Weesner, head of Commercial International Corp., has been elected president of Bon Ami Co., N. Y. He succeeds Virgil Dardi, who resigned earlier this year as chairman and president. Mr. Weesner is chairman of the board, president and treasurer. Other officers of the company include Emil Morosini, vice-president and counsel, and Ralph A. Schwaikert, vice-president in charge of manufacturing, William R. Rankin, assistant treasurer, and Edna von Thaden, assistant secretary.

John MacDonald, who resigned to join Shulton, Inc., Clifton, N. J., has rejoined the firm as sales manager. John Shaw is advertising manager.

#### Glyco Changes Name

With its acquisition by Charles L. Huisking & Co., New York, Glyco Products Co., also New York, has been renamed Glyco Chemicals Co. Harry Bennett and Edward Rosendahl, former Glyco president and vice-president, respectively, have sold their interests in the business but are available for consultation.

Mr. Bennett continues as editor-in-chief of the "Chemical Formulary."

J. C. Sharman



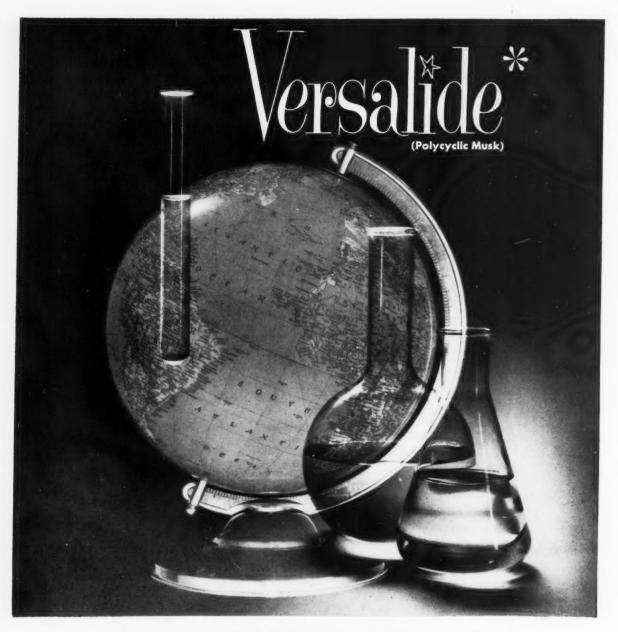
E. G. Pearson



Peter P. Powell



OCTOBER, 1958



### an international success!

Within a year of its introduction, Versalide, Givaudan's outstanding new polycyclic musk, has met with international acceptance! Perfumers throughout the world of fragrance have recognized in its versatility and unique combination of advantages a whole new field of opportunity for creative perfumery.

Versalide lends to a perfume all the enhancement, sweetness, strength, fixation and blending properties expected only from the macrocyclic musks, and yet at a fraction of their cost.

A pure chemical body, not a mixture, Versalide is economical stable to light, heat, air, alkali; and does not discolor soap. And its versatility is practically unlimited!

We will gladly send you a sample and more detailed information. 321 West 44th Street, New York 36, N. Y. \*Reg. U.S. Pat. Off.



GIVAUDAN-DELAWANNA, INC.

SOAP and CHEMICAL SPECIALTIES

#### Migliarese in C-P Post

Joseph Migliarese has been appointd head of the laboratory for biological research now being con-



Joseph Migliarese

structed in New Brunswick, N. J., by Colgate-Palmolive Co., New York, it was announced last month by John R. Brown, Jr., vice-president—research and development.

Formerly on the staff of Rutgers University, Dr. Migliarese has been with Colgate for three years.

The laboratory, part of the company's corporate research activity headed by Joseph H. Brant, will be completed next spring. Scientists from the fields of biology, bacteriology, physiology, radiology and enzymology will conduct research there on the fundamental health problems of skin and hair.

#### C. D. Allen Dies

Charles D. Allen, 79, who retired in 1954 as a vice-president of H. Kohnstamm & Co., New York, died Sept. 7 at Sagamore Beach, Mass. He had been with Kohnstamm for more than 50 years.

#### Sanitarian Award To Mohr

Karl A. Mohr, chief sanitarian and deputy health commissioner of Green Bay, Wis., was named "Sanitarian of the Year" and given the annual Sanitarian's Award and a check for \$1,000 in New York last month at the 45th annual meeting of the International Association of Milk and Food Sanitarians, Shelbyville, Ind.

The award, said to be the highest professional recognition for a local sanitarian, is presented annually to the sanitarian who has contributed most meritoriously to the health and welfare of his community during the preceding five years.

#### Mosquito Control Data

"Control of Mosquitoes with 'Lethane 384'" is the title of a technical bulletin issued recently by Rohm & Haas Co., Philadelphia 5, Pa. Addition of "Lethane 384" as knockdown agent to oil based DDT, "Rhothane" or malathion sprays is suggested for adult mosquito control by sprays or fogging. Detailed information on formulation and modes of application are supplied as well as two sample labels; one for fogging oil formulated with three per cent "Lethane 384" and five per cent DDT, the other for fogging oil concentrate containing "Lethane 384" and malathion.

#### New Du Pont Pesticides

Four pesticides which have been added to the garden chemical line of E. I. du Pont de Nemours & Co., Wilmington, Del., were shown at the National Hardware Show in New York, Sept. 29-Oct. 3.

Among the products are "Du Pont Chickweed Killer," based on neburon; "Du Pont Crabgrass Killer," based on amine methyl arsonates; "Manzate" maneb fungicide; and "Du Pont Combination Garden Spray," containing methoxychlor insecticide and "Parzate" zineb fungicide. All four are formulated for use in sprayers. Their introduction brings to 31 the number of products in Du Pont's garden chemical line.

The chickweed killer and combination garden spray are available in four and 10 ounce canisters respectively. The "Manzate" fungicide is packaged in a six ounce jar and the crabgrass killer is available in 16 ounce, 32 ounce, or gallon bottles.

#### **Allied Names Two**

James E. Shand has been appointed manager, chemical sales, and John C. Esher, assistant manager, for the new plastics and coal chemicals division, Allied Chemical Corp., New York.

Formerly assistant manager of chemical sales for Barrett division, from which the new division was recently formed, Mr. Shand joined Allied in 1946 as a technical service representatives for the division's chemical sales department. He served successively as special representative and assistant sales manager and, in 1956, was appointed assistant manager.

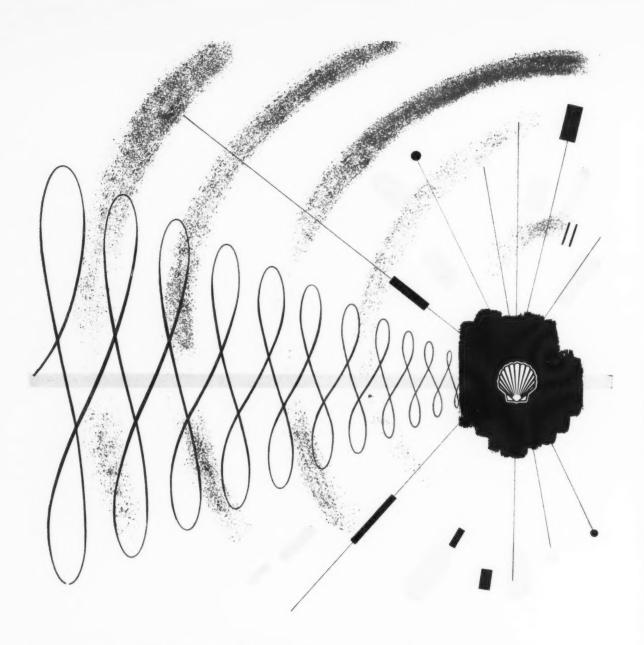
Mr. Esher was formerly assistant sales manager for chemical sales in charge of tar acids, tar bases, and other coal tar chemicals. He joined Allied Chemical Corp. in 1937.

James E. Shand



John C. Esher





### Specify glycerine with confidence

Conveniently located storage facilities assure prompt delivery, from a drum to a tank car

#### SHELL CHEMICAL CORPORATION

CHEMICAL SALES DIVISION

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis
IN CANADA; Chemical Division, Shell Oil Campany of Canada, Limited, Montreal • Toronto • Vancouver



#### CSMA Achievement Award to Dr. Klarmann

D R. Emil G. Klarmann, vicepresident of technical service of Lehn & Fink Products Corp., N. Y., has been selected to receive the 1958 Achievement Award of the Chemical Specialties Manufacturers Assn. He thus becomes the sixth recipient of the award, which was established in 1952 to honor those who have made outstanding contributions in the field of chemical specialties. No award was made in 1957.

The choice of Dr. Klarmann, former CSMA president, vice-president and currently a member of the board of governors, was unanimously approved during a meeting of the association's board at Oyster Harbors Club, Cape Cod, Sept. 9.

A native of Austria, Dr. Klarmann has been a resident of the United States for 32 years. Following his elementary and secondary education, he entered the Technological Institute of Bruenn. He continued graduate work at the University of Halle, a.S., Germany. He holds the degrees of chemical engineer and doctor of science.

Dr. Klarmann joined Lehn & Fink in 1924, became chief chemist in 1927, vice-president in charge of research in 1940, and vice-president and manager of technical services in 1953.

In the field of germicides, his specialty, he was active in fundamental studies on the relationship between chemical structure and anti-bacterial action, leading to the introduction of new types of disinfectants in the Lehn & Fink line, and more recently, of the non-toxic formula of "Lysol" disinfectant. He has contributed to the expansion of the Dorothy Gray and Tussy lines of cosmetics. He also did some pioneering work in the fields of cosmetic sunburn preventives, in hormone preparations, in deodorants and in dentifrices.

He was granted an honorary degree of Doctor of Science (which



Dr. Emil G. Klarmann

was in addition to his earned degree) by the Philadelphia College of Pharmacy and Science in 1955 for "scientific work in promoting public health."

Dr. Klarmann is and has been a familiar figure at meetings of the Chemical Specialties Manufacturers Assn. and its predecessor organization, the National Assn. of Insecticide and Disinfectant Manufacturers, for well over 20 years. He was several times chairman of the scientific committees of both associations. He served as first chairman of the organization's Disinfectant and Sanitizer Division, and more recently has been active on the Committee on Precautionary Labeling of CSMA.

He is the author or coauthor of some one hundred papers and patents in the chemical, bacteriological and cosmetic fields. He is a charter member, past president and the 1953 medalist of the Society of Cosmetic Chemists. Dr. Klarmann is also a past chairman of the Scientific Section of the Toilet Goods Association.

#### **New Sodium Chlorate Plant**

Production of sodium chlorate is expected to begin late this year at the new plant of American Potash & Chemical Corp., in Aberdeen, Miss. Initial production capacity will be at the rate of 15,000 tons per year. Sodium chlorate

is used as a bleach and in weed killers and cotton defoliants.

Currently under construction, the plant is located on a 770acre site ten miles south of Aberdeen.

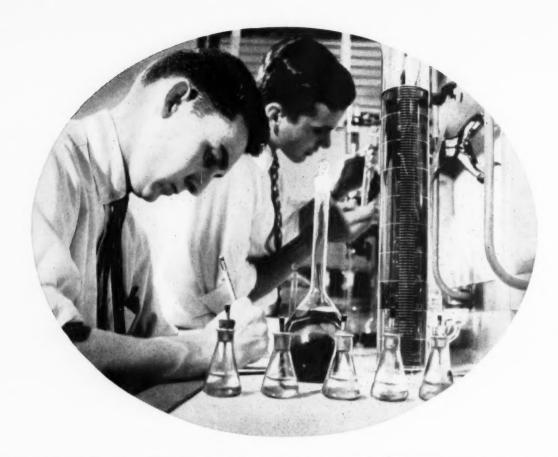
#### Glidden Synthetic Menthol

Plans for the construction of a \$2,000,000 chemical plant to produce synthetic laevo-menthol were announced last month by Dr. W. David Stallcup, vice-president in charge of the organic chemical division of Glidden Co., Cleveland, O. The new facility, to be incorporated as part of Glidden's Jacksonville, Fla., operations, will be large enough to supply about 40 per cent of U. S. requirements for this flavoring commodity.

At the same time Dr. Stallcup announced that Glidden has embarked on an intensified program for the further development of other of its aromatics. All produced from domestic raw materials, they include geraniol, citronellol, hydroxy citronellal and citral.

According to Dr. Stallcup. "This is the first actual synthetic replacement that has been achieved for laevo-menthol, which heretofore has been producd solely from imported natural oils. "We believe the commercial availability of the synthetic product will be a great boon to the principal users of menthol as it will eliminate lack of uniformity and the need for speculative buying. Moreover, it will enable these users to operate with a minium inventory, thus freeing capital for other aspects of their businesses." Dr. Stallcup also pointed out that many of the principal aromatic chemicals to be produced by Glidden will soon be available in ton lots or larger quantities.

Glidden's organic chemical division, headquartered in Jackson-ville, Fla., was formerly known as the Southern Chemical Division. The recent change in designation, Dr. Stallcup said, is in keeping with Glidden's continued growth in the field of synthetic organic chemicals.



Like Hundreds Of Other Chemical-Specialty Manufacturers,
YOU CAN COUNT ON

# Colgate For Quality Ingredients

As a pioneer in the soap business—famous for quality products since 1806—you can count on Colgate as a source of quality soaps and synthetic detergents for use in the manufacture of chemical-specialty products.

#### Colgate products of special interest to you include:

#### MENTOR BEADS-

an alkyl aryl sulphonate synthetic detergent in spray form. For use in industrial cleaning, processing, compounding. Can be colored and perfumed as desired.

#### ARCTIC SYNTEX 036-

a 100% liquid non-ionic surface active agent. For use in chemical-specialty manufacture where an economical and efficient wetting, penetrating, emulsifying and cleaning agent is desired.



More Technical Service Available! Our enlarged Technical Service staff will be happy to help you solve your soap and synthetic detergent application problems. Write the Colgate-Palmolive Company Associated Products Department.

Colgate-Palmolive Company, 300 Park Avenue, New York 22, N.Y.

#### Keller Heads Oils Division

G. Keller, president of Schimmel & Co., New York, is serving as chairman of the essential oils and extracts division in the 1958 appeal for funds for the Travelers Aid Society of New York. A goal of \$405,000 has been set by the society for the campaign which ends Dec. 31st.

#### Establishes Traffic Dept.

A corporate traffic department which coordinates all traffic activities among several of its plants has been established by Hooker Chemical Corp., Niagara Falls, N. Y. Involved in the department are plants at Niagara Falls, Montague, Mich., Columbus, Miss., and four plants of the phosphorus division at Adams, Mass.; Columbia, Tenn.; Dallas, Tex.; and Jeffersonville, Ind. Other plants will be included at a later time.

Percy T. Brewbaker has been named general traffic manager and Lorne Wilson is transportation consultant, it was announced last month by F. Leonard Bryant, vice-president—production.

Mr. Brewbaker was recently appointed traffic manager for the phosphorus division and had been director of traffic for Shea Chemical Corp. since 1953.

#### Re-elect Council President

H. L. Dixon of B. F. Goodrich Co., Akron, O., was re-elected president of the Rubber & Plastic Adhesive & Scalant Manufacturers Council, Newark, N. J., last month at a meeting of the organization in St. Clair, Mich.

Also re-elected for one-year terms were: L. R. Turner, St. Clair Rubber Co., first vice-president; N. L. Melbye, Angier Adhesives division of Interchemical Corp., second vice-president; J. L. Been, Rubber & Asbestos Corp., third vice-president; and B. F. Warmer, Coast Pro-Seal & Mfg. Co., treasurer.

Next meeting of the council

is scheduled for Dec. 8th and 9th in Washington, D. C.

#### **Albert Jauch Dies**

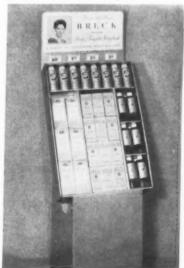
Albert M. Jauch, 40, northwestern Ohio representative for Lever Brothers Co., New York, died in Toledo in early August.

A Toledo resident for nine years, Mr. Jauch was a member of the Association of Grocery Manufacturers' Representatives.

#### New Int. Minerals Center

The opening of a \$5,000,000 administrative and research center by International Minerals & Chemical Corp. took place in Skokie, Ill., last month. Included in the center are five buildings, just completed, and a research center constructed in 1951. The central, five-story administration building, which will house the company's headquarters offices formerly located in Chicago, is topped off by a heliport. Approximately 600 persons will work at the new head-quarters.

A new four-color corrugated floor display unit has been introduced recently by John H. Breck, Inc., Springfield, Mass. The merchandiser contains three Breck shampoos, "Breck" hair set mist and "Breck Banish" shampoo. A special feature of the new display is its slanted front which enables consumers to obtain a full view of all merchandise. It stands 55 inches high, is 19 inches wide and 18 inches deep, including a gold corrugated base and the display panel at the top. The unit is shipped to retailers pre-packed, pre-priced and ready for immediate display.



#### Glasby Joins Kleen-Line

Ward M. Glasby, who last month resigned from Fuld Brothers, Inc., as vice-president and west coast plant manager in Los Angeles, has joined Kleen-Line Corp., Santa Ana, Calif., as sales manager, it was announced Sept. 9 by Louis E. Clem, executive vicepresident. Kleen-Line is a sanitary supply and maintenance equipment distributor with a branch office and warehouse at 2050 S. Main St., in San Bernardino. The principal office of the company has been located at 141 E. "E" St. in San Bernardino since 1935.

Mr. Glasby had been with Fuld Brothers in Baltimore and in Los Angeles from March, 1947, until July, 1958. He will be sales manager of both locations of Kleen-Line.

#### **Caffier Succeeds Pruitt**

Roger E. Caffier has just been named chemical sales representative in the Cleveland area for the plastics and coal chemicals division of Allied Chemical Corp., New York. He succeeds Julian S. Pruitt, 33, who died Aug. 28, after a brief illness. Mr. Pruitt had represented Allied's Barrett division, from which the plastics and coal chemicals division was formed earlier this year, in the Cleveland area since March 1957.

Mr. Caffier had been an Allied Chemical sales representative in the Providence area the past two years.

#### Francois Goby Honored

Francois Goby, head of Tombarel Freres, Grasse, France, parent company of Tombarel Products Corp., New York essential oil firm, has been nominated by the governor of the Bank of France as an adviser to the Nice branch. M. Goby is also mayor of Saint-Vallier - de - Thiey, France. Announcement of M. Goby's appointment was made in the U.S. by P. Muhlethaler of Tombarel Products Corp., exclusive U.S. representative of the firm.

# Association of Canadian Chemical Specialties Manufacturers

extends a cordial invitation to all companies in the United States and Canada to attend its first annual meeting at the

# QUEEN ELIZABETH HOTEL

# Montreal, Quebec November 13th and 14th, 1958

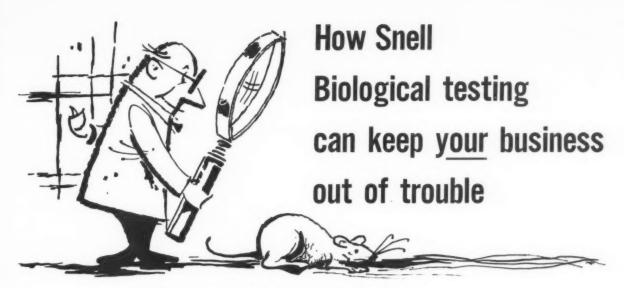
Business sessions will include discussions on tariffs; the spectacular rise of the chemical specialties manufacturing industry in Canada in the post-war years; sessions of the various divisions — Aerosol, Automotive, Disinfectants & Sanitizers, Pesticides, Soaps & Detergents, Waxes & Floor Finishes; continuous movie showings concurrently with the divisional sessions on related subjects; and an interesting and entertaining program for the ladies during which the scenic wonders of Montreal with its old world culture will be shown to them.

The Association of Canadian Chemical Specialties Manufacturers was formed this year to cater to the specific interests of manufacturers in, and suppliers to, the chemical specialties industry throughout Canada. It enjoys close friendship with the Chemical Specialties Manufacturers Association, New York, and its aims and objectives are similar to the long-established U. S. organization.

In the interests of international goodwill and the broad participation of similar companies in this great and growing field, the Canadian Association will welcome delegates from the United States and can promise them a stimulating and enjoyable time in the "Paris of North America."

For further particulars please write:

Secretary-Manager,
Association of Canadian Chemical
Specialties Manufacturers,
1005 Sherbrooke Street West,
Montreal 2, Que. Canada.



#### A Short Article That May Save You Thousands of Dollars in Litigation, Sales, Licensing Problems

What Biological Testing Is—This is the testing of your product's safety and effectiveness on living organisms—animals, micro-organisms, plants, and humans—to determine their reactions to it in taste, odor, toxicity, organ injury, and similar responses of living tissue.

If you are in the business of manufacturing or marketing drugs, cosmetics, sanitaries, household specialties, or other chemical products used on or near the person, this is a vital area of testing that is frequently overlooked and neglected. Biological testing is a highly professional job requiring extensive facilities and knowledge of coding, labeling, and the law. Snell, with 38 years of experience in testing, formulation, client counseling, and patent and claims litigation, can be of genuine service to you.

Horrible Examples—You cannot have failed to read in the newspapers and trade press, during the past several years, of the widely-publicized suits filed against various manufacturers of cosmetics and specialty products for unexpected personal injury. They all could have been avoided by proper biological testing!

Do you, for example, know for sure that the ingredients in *your* new product are perfectly safe under all conditions? That they cannot cause delayed or obscure personal injury, even to a few specially sensitized individuals? If you aren't, you live under the threat of lawsuits that conceivably could put you out of business!

#### WHAT SNELL CAN DO FOR YOU

Toxicity Testing—Any new chemical product is likely to present some toxicity problem that must be faced and solved for successful marketing. Snell can screen unknown products for gross toxic properties in a preliminary 48-hour animal test. Borderline substances may require

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Microbiology—Testing with actual micro-organisms in a plate culture can give you reliable data to work from in evaluating the power of disinfectants, antiseptics, germicides, and sanitizing compounds, to kill or inhibit bacteria, germs, molds, etc.

Odor Evaluation, Toxicity Testing—Does your product have disagreeable odor components? Are its vapors toxic, and if so, under what conditions, duration, and concentration? Snell can test these properties for you, on insects, animals, and human groups, and work with you in product improvement, for effectiveness, sales, and legal purposes.

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#### **NSSA West Coast Show Features Seminar**

A MANAGEMENT business seminar will highlight the second west coast trade show of the National Sanitary Supply Association set for Oct. 19-21 at the Fairmont Hotel in San Francisco. The seminar, an innovation of this year's show, will be organized and conducted by members of the teaching staff from Stanford University's Graduate School of Business, Palo Alto, Calif.

According to the association, more than 1,000 representatives of member firms will attend the show. The first trade show of this kind for the west coast region was held in Los Angeles in November, 1956. This year, approximately 78 manufacturers from 16 states will display a full line of sanitary supply products. Exhibits will be on view for association members only on Oct. 19th, and for eligible non-members as well on Oct. 20th.

More than 300 owners of companies manufacturing and distributing sanitary supplies are expected to attend the seminar which will be led by Walter Diehm, assistant dean, and Carlton Pederson, acting dean, of the graduate school. Following a dinner on Oct. 20th at which Harold Pond, NSSA president, will address members, Prof. Diehm will outline the seminar program. Prof. Pederson also will speak about "The Manager's Job in a Small Business," as the first topic of the seminar.

Tuesday, Oct. 21 will be devoted entirely to the seminar which includes the following lecturers from Stanford and their topics of discussion: Gerald Wentworth, assistant professor of accounting. "Maximizing Profits Through Accounting Information and Proper Controls;" Theodore Max, associate professor of business management, "Planning for Profit;" Theodore Kreps, professor of business economics, "Tax Problems of the Small Businessman;" Robert Davis, associate professor of sales management, "Problems of

Controlling Sales Effort;" and Thomas Harrell, professor of business psychology, "Psychological Aspects of Business."

After the seminar, the show concludes as members meet with Mr. Pond, Leo J. Kelly, NSSA executive vice-president, board members, and regional officers of the association.

#### **Carter Announces Dividend**

The board of directors of Carter Products, Inc., New York, last month declared a regular quarterly dividend of 20 cents per share for the second quarter on each outstanding share of common stock. The dividend was paid Sept. 30 to stockholders of record as of Sept. 18. Dividend for the preceding quarter was also 20 cents per share.

#### U.S.I. Ups Alcohol Price

Ethyl alcohol, pure industrial grade, costs five cents more per gallon effective Oct. 1, it was announced last month by U.S. Indus-

A new stainless steel metal sponge, called "Gottschalk's." designed primarily for cleaning autdoor barbecues, grills and overs, manufactured by Metal Sponge Sales Corp., Philadelphia, is packaged in four by five-inch cerise-colored cellophane bag by Cellu-Craft Products Corp., New Hyde Park, N. Y. The sponge will not clog with charred materials or grease and rinses clean in hot soapy water, according to the manufacturer.



trial Chemicals Co., New York. This is the first increase since July 1, 1956. Prices of specially denatured alcohols were advanced correspondingly. U.S.I.'s SDA-40 was advanced eight cents per gallon, and the proprietary solvents "Solox" and "Filmex" went up six cents.

#### **New Hooker Executives**

Edward J. Bissaillon, Barrett B. Brown, and Charles D. Crosby have been advanced to executive positions in the phosphorus division of Hooker Chemical Corp., Niagara Falls, N. Y., it was announced last month by F. Leonard Bryant, vice-president—production. The new division includes four plants which were operated as Shea Chemical Corp. before its merger with Hooker last spring.

Mr. Bissaillon, recently appointed division engineer, is now division assistant production manager. He joined Shea at its Adams, Mass., plant in 1950.

Formerly assistant production superintendent at Hooker's Niagara Falls plant, Mr. Brown is now technical manager for the phosphorus division. He has been with Hooker for over 10 years.

Mr. Crosby is now division purchasing manager and was previously purchasing agent at Shea's Columbia, Tenn., plant.

All three executives are located at the division's main office for manufacturing at the Jeffersonville, Ind., plant.

#### **Babbitt Declares Dividend**

For the first time since 1955 the board of directors of B. T. Babbitt, Inc., New York, declared a dividend on the common stock of the firm. The 10 cents per share dividend was voted because of the improved condition of the company and the confidence in its future prospects, according to Marshall S. Lachner, president.

The dividend is payable Dec. 1 to stock holders of record as of Nov. 10.

#### **ACS 134th MEETING**

(From Page 103)

acid or salt form, in homopolymers or in copolymers may be prepared from methacrylic or acrylic acids, according to a report by George L. Brown and Joseph Johnson of Rohm & Haas Co., Philadelphia. These water-solubilizing groups are usually introduced by direct polymerization of the acidic monomer or by the hydrolysis of ester or nitrile to salt groups. The alkali

metal or ammonium salt forms of the acids are more effective than the hydrogen form in contributing water solubility. By adjustment of the monomeric acid level it is therefore possible to prepare copolymers which are insoluble prior to neutralization, but form viscous solutions upon addition to alkali.

These polymers and copolymers are used as thickening agents in aqueous systems such as polishes and as dispersing agent in a number of fields. Their color is light

and remains so on aging.

In the Division of Agricultural and Food Chemistry a fluorometric assay for gibberellic acid was reported by Robert J. Theriault, Waldo C. Friedland, Merlin H. Peterson, and John C. Sylvester, Abbott Laboratories, Research Division, North Chicago, Ill.

Described is a specific and reproducible quantitative fluorometric assay for gibberellic acid, which is applicable to purified as well as process samples. Simplicity and economy in time are claimed for the new method.

Physiological effects of the gibberellins were described in a paper by Bernard O. Phinney and Charles A. West, University of California, Los Angeles. Evidence was presented that many, but not all. flowering plants respond to microgram amounts of gibberellins and gibberellin-like substances by an increase in both cell number and cell size. Time of flowering, leaf and fruit retention, and a number of other biological processes may be modified by gibberellin and allied substances. In the same session M.A. Banzelli of Merck & Co., Rahway, N. J., reported that the use of granular products containing potassium gibberellate at various per acre amounts and soil placement levels can influence the relative timing of plant growth responses.

The pesticides subdivision of the Division of Agricultural and Food Chemistry heard a report on a "New Colorimetric Method for Residue Analyses of Organic Phosphorous and Carbamate Insecticides," by T. E. Archer and G. Zweig, Pesticide Research Laboratory, University of California. Davis. The method is based on the colorimetric determination of acetylcholinesterase activity.

"Demonstration of Lindane and a Lindane Metabolite in Plants by Paper Chromatography" was described by James P. San Antonio of the U. S. Department of Agriculture's Plant Industry Station at Beltsville, Md.



# Increased CHLORDANE sales will start here!

Thousands of your dealers will be visiting Velsicol booths at forthcoming trade shows, to learn about the big new 1959 Chlordane promotional program. This extra merchandising effort is one of many ways in which Chlordane will help you increase sales next year. You now have twice the sales opportunities with Chlordane, because it not only kills insects but also controls crabgrass. This double action was first promoted in 1958, and the response was terrific. In addition, the

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at these shows!
National Hardware Show,

Inc.
COLISEUM, New York
Booth 1129-1130
Sept. 29 to Oct. 3, 1958
Garden Supply Trade Show
STATLER HOTEL, New York
Booth 138
Jan. 30-31-Feb 1, 1959
Garden Supply Trade Show
1958
NAVY PIER, Chicago
Booth 510
November 7, 8, 9, 1958

Chlordane dealer program was highly successful in building retail sales. Next year, the Chlordane dealer and consumer campaigns will be more extensive than ever before. Dealers will be given full details at the fall trade shows! Build your 1959 plans around Chlordane, and plan for extra profits!

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HD-90

90% Minimum active dodecyl benzene sodium sulfonate flake SP-60

56% Minimum Active dodecyl benzene sodium sulfonate paste ABS-99

96-98% Dodecyl benzene sulfonic acid TS-60

60% Triethanolamine sulfonate liquid

#### MORE DETERGENT SUDS PER DOLLAR

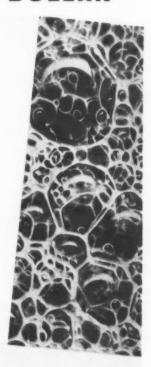
10% HIGHER CONCENTRATION AT EQUAL COST—That is what these unique sulfonates make available to you. The four products above and those listed below give new possibilities in detergent formulation.

- AL-40 AMMONIUM SULFONATE IN ALCOHOL.
- SF-40 SODIUM DODECYL BENZENE SULFONATE FLAKE
- KP-60 Potassium dodecyl benzene sulfonate paste
- 575-85 SODIUM TOLUENE SULFONATE FLAKE

More detergent suds *immediately* increase consumer acceptance for your product! Cold processing by PILOT at temperatures below freezing produces superior sulfonates more homogeneously effective for such use as household sudsers, industrial detergents and scouring powders. In both dry powders and in liquid solutions, PILOT sulfonates are unique in concentration and purity levels.

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Write today for formulas and samples of any of the PILOT concentrates. Only PILOT features highest concentration and premium quality at competitive prices! Immediately available in quantity lots.





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#### **Monsanto Names Dowd**

Patrick J. Dowd has been elected treasurer of Monsanto Chemical Co., St. Louis, it was announced last month by Charles Allen Thomas, president. He succeeds Edward D. Toland, Jr., who has resigned.

With Monsanto since 1941, Mr. Dowd was most recently director of administration for the overseas division. His first position with the firm was as director of payrolls and pensions. In 1947, he was appointed director of internal auditing and in 1954 was named executive officer for the overseas division.

#### **Montrose Elects Directors**

Montrose Chemical Co., Newark, N. J., has announced the election last month of two new directors to its board.

Richard B. Schneider, vicepresident of Empire Trust Co., New York, and Leon Quat, a New York attorney, are the two new members.

#### dit In Trademark Post

Edward W. Merkel, manager of the legal services department of Procter & Gamble Co., Cincinnati, has been elected to a one-year term as a vice-president of the United States Trademark Association, it was announced recently. The group is composed of trademark owning companies, lawyers, law firms, advertising agencies, public relations firms, designers, and others interested in trademarks.

#### **Hotel Show Plans**

Nearly 600 exhibitors have signed up to exhibit at the 43rd National Hotel Exposition set for the Coliseum, New York, Nov. 3-7. An especially large attendance is expected at the show in view of the 600,000 invitations which were mailed last month to owners and purchasing personnel of hotels, and allied industries in the United States and Canada.

Show activities get underway Nov. Ist with meetings of various trade associations within the industry which are held daily until Nov. 7th.

Among the exhibitors are virtually every supplier source to the hotel and food industry. Features of this year's program, according to Gaston Lauryssen, attendance promotion chairman, include educational forums, a "motel day," and an exhibit entitled "The Room of Tomorrow.'

#### Named by Warner-Chilcott

James L. Smart has been appointed a market analyst at Warner - Chilcott Laboratories, Morris Plains, N. J., it was announced last month by the company. The appointment is part of the firm's expansion of its marketing research department.

A graduate of the University of Notre Dame, Mr. Smart joined the firm after receiving a masters degree from the University of Pennsylvania. He is working with the department's manager, Eugene R. Smyth.



#### May We Put Some in Your Hands?

The Century Brand Oleic Acids pictured above have the following properties:

	Century 1050 L P White Oleic Acid	Century 1010 Distilled Oleic Acid
Maximum color, Lovibond	5Y/0.5R—5 <sup>1</sup> / <sub>4</sub> "	15Y/3R-1"
Acid value	197—203	195201
Saponification value	198—205	197—203
Unsaponifiable content	1.5% max.	2.0% max.
Polyunsaturates	3% max.	

We would like you to see our Oleic Acids and compare them critically with other competitive products, so you may fully appreciate Century Brand quality. We invite your comparison of Century Brand Oleic Acids because only you can realize their advantages in *your* products.

A request to Dept. H-30 for samples will receive prompt attention and we will welcome the opportunity to put these better products in your hands.



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#### **Elliott CACA President**

J. H. Elliott of Rohm & Haas Co. of Canada Ltd., West Hill, Ontario, was elected president



J. H. Elliott

of the Canadian Agricultural Chemicals Association, Montreal, last month at the organization's sixth annual conference in Winnipeg. The association represents basic producers, formulators, and distributors of pesticides in Canada.

With Rohm & Haas since 1950, Mr. Elliott has served on the board of directors of the trade association since 1954. In succeeding years he was chairman of membership, treasurer and public relations chairman, secretary, vice-president and chairman of the legislation committee.

Those elected to serve on the 1958-59 board of directors were: Bruce Marr, Naugatuck Chemicals Division, Dominion Rubber Co., Ltd., Elmira, Ont., first vice-president; J. K. Brown, Green Cross Division, Sherwin-Williams Co. of Canada Ltd., Montreal, second vice-president; and J. S. Wilson, Dow Chemical of Canada, Ltd., Sarnia, Ont., secretary; D. K. Jackson, Monsanto Canada, Ltd., Montreal, treasurer.

#### Shulton Names Schwarcz

Morton Schwarcz has been named to the newly created position of manager, applications laboratory, for Shulton, Inc., New York, it was announced last month by Charles Kline, scientific director. Mr. Schwarcz will be responsible for the development of household chemical formulations and creation of end uses for new industrial chemicals. Previously he was with Motomco, Inc., New York rodenticide firm.

#### U. S. Borax Names Two

United States Borax & Chemical Corp., Los Angeles, recently announced the appointments of P. J. O'Brien as vicepresident – production and engineering, and R. F. Steel as vicepresident-finance and administration. Both are newly created positions

Mr. Steel, most recently assistant general manager, has been with the company 12 years.

Mr. O'Brien, who joined United States Potash Co. in 1933 and later transferred to the Pacific Coast Borax Co., became general manager when the two firms merged in 1956 to form U. S. Borax.



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#### SOAP AND THE LAW

(From Page 55)

company liable for injuries caused by a truck driver who is driving the company's truck to haul his own household goods?"

According to a recent higher court the answer is yes, if the testimony shows that an official of the company gave the driver his consent to use the truck.

For example, in Kent v. Draper Soap Co., 63 Atl. (2d) 571, the testimony showed facts, as follows: A man named Ware was employed as a truck driver by Draper Soap Co. One day Ware had a serious wreck and injured a pedestrian named Kent while using the truck to move certain of his own household furniture.

In subsequent litigation, the higher court clearly explained that under ordinary circumstances Draper Soap Co. could not be held liable for the injuries caused by Ware, but since no positive testimony was given that Ware was driving the truck without consent of an official of the soap company, the higher court indicated the latter's liability, saying:

"The defendant (Draper Soap Co.) derives no advantage from the fact that Ware was using the truck for his own purposes, as the statute in case of accident makes him the defendant's agent provided he was driving the truck with the latter's consent, express or implied. In other words, in such a case the operator of the motor vehicle is the statutory agent of the owner."

On the other hand, this higher court clearly held that irrespective of state laws an employer never is liable nor responsible for negligence of an employee who acts outside the scope of his employment or if the testimony proves positively that the employer loaned the automobile which caused the injury. See Gallo v. Americal, 72 Atl. (2d) 166; Ford v. Darcus, 168 Atl. 814; and Kent v. Draper, 63 Atl. (2d) 571.

#### Stanley Remlein Dies

Stanley L. Remlein, 61, purchasing agent for Oakite Products, Inc., New York, died Sept. 28 at his home in Rockville Centre, N.Y., after a long illness. Mr. Remlein had been with Oakite for 35 years. He is survived by his widow, Mrs. Ethel Chase Remlein, and a brother, Kirk B., of San Diego,

#### **LETTERS**

(From Page 39)

Drug Administration, I wrote in the article that "Despite Dr. Hueper's caution, the Food and Drug Administration, which is well acquainted with all aspects of Hueper's work, has allowed the passage of a new drug application of a topical antiseptic containing a large quantity of PVP, and intended for use in conditions of cuts and burns of the skin and mucous membranes — conditions obviously of epithelial defects."

This is a fact. Reasoning from that fact, I concluded that the Food and Drug Administration is not too concerned with Hueper's cautions — obviously referring to those cautions concerning the topical application of PVP.

In order to justify the Food and Drug Administration's action concerning this topical antiseptic, I assumed that FDA had sufficient information about PVP, to permit its use topically in humans as would occur in the recommended use of the antiseptic. Otherwise, I would find it difficult to believe that the Food and Drug Administration would allow a new drug application to pass.

Further, I find it difficult to believe that Mr. Janssen can cite any objection to this line of argument concerning the topical use of a PVP formulation. I did not intend to imply that the Food and Drug Administration is convinced that the safety of use of the material has been unquestionably established. Anyone familiar with a new drug application is aware that, although the application may

be allowed to issue, the new drug is on trial, so to speak, for the rest of its lifetime.

The entire argument as described above was intended as a rebuttal to Hueper's statement quoted by Bergmann, et al.—this quotation concerning, in part, the topical application of PVP on the skin.

In regard to the effects of PVP on the mucous membranes of the respiratory tract; I stated in my article that "It is premature at this time, based on the evidence described by Bergmann, to lay the blame specifically on hair sprays, although this conclusion may be borne out by further evidence." This statement applies to all hair sprays in general, including those containing PVP. It expresses my own feelings in the matter: namely, that the safety of materials used in hair sprays will remain in question until further evidence is obtained. I believe that only through gross misinterpretation would my article tend to create the impression that the Food and Drug Administration is convinced that the safety of the material has been unquestionably established.

You may appreciate that it is difficult to write an article on any scientific or medical problem which does not presuppose at least some knowledge of the background on the part of the reader. To write such an article on PVP without assuming some knowledge on the part of the potential reader would result in a paper of such great length as to be beyond the scope of publication in your journal. Thus, for example, when I state in my article that "Even further, the Food and Drug Administration has allowed the stockpiling of PVP solution intended for intravenous use in humans as an emergency blood plasma expander in the event of massive catastrophe."-I assume that the reader is aware of what "emergency in the event of a massive catastrophe" is intended to mean. Namely, that in the event of a catastrophe of such dimensions

that thousands of humans are in danger of immediate death because of loss of blood, the issue of potential carcinogenic properties of PVP may be relegated to secondary importance. In the event of such a catastrophe the choice would lie between immediate death and the lesser evil of questionable pathology in the future.

Thank you again for allowing me to clarify my position and opinions in this matter.

Morris V. Shelanski, M.D., C.M., Director,

Industrial Biology Research and Testing Laboratories Philadelphia

#### AWARD TO DEUPREE

(From Page 56)

century.

Mr. Deupree, president of P&G from 1930 to 1948 and board chairman since 1948, was described in the Gantt Gold Medal citation as "a man who has infused in his own company the continuing recognition that the interests of a company and its employees are inseparable; one who has proved the value of this philosophy as he has guided his company through its greatest growth period; and one who has sought diligently to foster such a philosophy throughout American industry."

#### SOAP TO SELL SOAP

(From Page 48)

Hewitt's primary goal in devoting so much attention to these attention-getters is to stimulate interest in its products. Its customers have not adopted Hewitt's novelty soaps mainly because they are too expensive for resale.

The busy time for the specialty soap industry is in the spring when soap is manufactured for the heavy purchases in the fall. Although it may be true that more people take more baths in the warmer months of the year, most heavy buying of specialty soaps is done in the fall.



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PLEXENE EXTRA CONC. — one gram chelates 99.4 to 102.5 mg of CaCO<sub>1</sub> at pH 11.

PLEXENE POWDER — one gram chelates 199 to 212 mg of CaCO at pH 11.

PLEXENE SPECIAL — with no ferric iron present, one gram chelates 120 mg of CaCO; at pH 11.

One gram of PLEXENE SPECIAL chelates the following amounts of ferric iron

at pH 10 . . . . . 54 mg at pH 9 . . . . . 68 mg at pH 8 . . . . . 74 mg

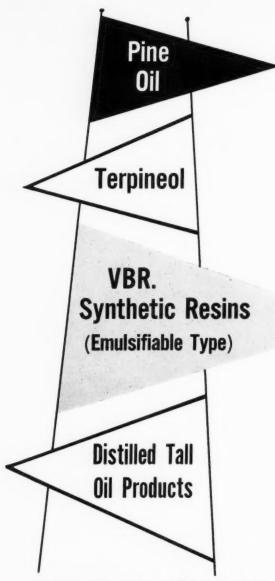


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# COSMETICS: Science and Technology

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This encyclopedic treatment is the result of an industry-wide collaboration of 61 specialists. Many of these contributors are directors of research or research chemists from the leading cosmetic firms and, for specialized subjects, pharmaceutical manufacturers, medical schools, law firms and government agencies are also represented.

The greater part of the 51 chapters describe cosmetic preparation, such as cleansing creams, foundation make-up, lipstick, depilatories, shampoos, toothpaste, perfumes and many others, giving for each product:

physical forms in which the product is made • raw materials • formulations • methods of manufacture • dermatological or other special considerations • abundant literature references.

Other chapters take up such subjects as: history of the cosmetic industry, plant layout and equipment, quality control, physiology of the skin, the Federal Food Drug and Cosmetic Act, patents and trade marks.

1957. 1453 pages, 138 illus., 107 tables. \$27.50

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#### 10th Anniversary Marked

Van Ameringen - Haebler, S.A.R.L., Paris subsidiary of van Ameringen - Haebler, Inc., New York recently celebrated its 10th anniversary at a dinner for its employees in Paris. Attending the function from the parent company were A. L. van Ameringen, board chairman, and Ernest Shiftan, vice-president and chief perfumer. Jacques Weill, managing director of the Paris unit, introduced Mr. van Ameringen.

#### **Prentiss Names Smith**

Charles Albert Smith, Ltd., has been appointed exclusive Canadian representative and distributor for Prentiss Drug & Chemical Co., New York, manufacturers of insecticides and rodenticides.

The Canadian firm maintains offices and warehouses in Toronto and Montreal and a branch in British Columbia.

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#### **BIMS Holds Outing**

Buyers Importers Manufacturers Salesmen of Boston held its last outing of the 1958 season Sept. 30th at Nashua Country Club, Nashua, N. H.

Highlight of the event was the second annual tournament for the C. P. Seavern Memorial Bowl. Golf, luncheon, dinner and door prizes were also featured at the outing.

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#### Hooker Appoints Two

Two appointments to corporate positions at Hooker Chemical Corp., Niagara Falls, N. Y., were announced last month by Thomas F. Willers, vice-president, treasurer, and comptroller.

George M. Taylor was appointed assistant comptroller and Daniel J. Lyons was named to the newly created position of general auditor.

Mr. Taylor had been vicepresident—finance of Shea Chemical Corp. before it merged with Hooker last May.

Joining Hooker last June,

Mr. Lyons was on special assignment in the phosphorus division, the new designation for the former Shea plants. Previously he was an auditor for Arthur Young & Co. and had supervised the Hooker audit for the past four years.

#### Allied Appoints Four

Four appointments within the Solvay Process division of Allied Chemical Corp., New York, were announced last month by the company.

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Robert H, Reed was appointed director of research, Herbert C. Wholers was named assistant director, and Arlie P. Julien became chief of application research. Also announced was Frederick H. Gilchrest's appointment as technical assistant to the director of product development of the division.

#### New Johnson's Floor Wax

A new floor finish designed for use on surfaces subjected to heavy traffic was developed recently by S. C. Johnson & Son, Inc., Racine, Wis. Tradenamed "Step-Ahead," the product is resistant to scuffing, marring, dirt pickup and rubber marking, according to the manufacturer. "Step-Ahead" also contains polymer "M", an emulsifier developed by the company's research laboratories, which is claimed to provide self-leveling during application and easy removability in stripping. The product comes in one, five, 30 and 55-gallon containers and will be marketed through janitor supply houses.



#### P&G Appoints Clark

A. P. Clark has been appointed to the board of directors and named director of sales for Procter & Gamble Co. of Canada, Ltd., Toronto, it was announced recently by W. E. Williams, president and general manager.

With the company since 1940, Mr. Clark was named general sales manager in September, 1957.

#### Hart Offers "Larvatex"

"Larvatex," an emulsifiable concentrate of dieldrin, used for mothproofing goods when applied in the dye bath to wools, worsteds, and hair fibers, is now commercially available from Hart Products Corp., New York.

According to the firm, the product provides permanent moth-proofing which lasts after repeated laundering and dry cleaning and meets the requirements of the ASTM permanent mothproofing standards and the standards of the U. S. Department of Agriculture.

#### **Anti-Termite Paste**

Termite protection of wood is effected by a formulation based on pentachlorophenol dissolved in oil type solvents in an oil-in-water emulsion, according to the October issue of Chemical Progress, house organ of Union Carbide Chemicals Co., New York. The water phase of the emulsion contains stabilizers and emulsifiers, including monoisopropanolamine, and ethylene glycol as an anti-freeze. "Woodtreat-TC" is marketed by Wood Treating Chemicals Co., St. Louis, Mo.

A paste of mayonnaise like consistency, the product is spread on the outside of wood in completed buildings or other locations. The pentachlorophenol and oils are said to penetrate the wood while the water evaporates. Only the emulsion stabilizers remain on the outside of the wood. Complete absorption takes thout two weeks, but varies with the wood, its moisture content, and temperature.

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Chemist: Eleven years knowhow in production, product development, research, purchasing in chemical specialties field, desires position on a partnership or percentage basis. Address Box 183, c/o Soap. Soap Maker: Retired soap expert with 40 years background in technical phases of all types of soap making is available on part time basis or to handle individual jobs of trouble shooting. Thoroughly familiar latest production methods. If interested, write Box 182, c/o Soap.

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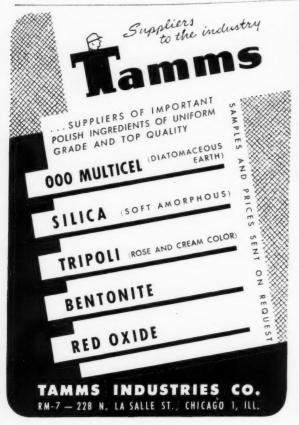
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(Continued on Page 197)





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#### Miscellaneous

(Continued on Page 198)

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#### **Navy Buys Scale Remover**

Navy contracts have been awarded for more than 100,000 pounds of scale removal compound based on sulfamic acid and invitations to bid have been released for an additional 400,000 pounds.

Although cleaners of this type have been used for over a vear by the Navy on a local option basis, they have now been adopted as a standard ship's store item by the Bureau of Ships. This move ends two years of testing and evaluation of the scale remover by the Navy and a supplier of marine chemicals.

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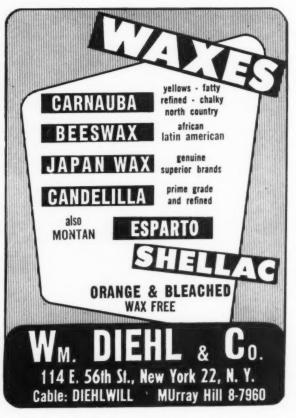
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#### **Renames Repellent**

Glenn Chemical Co., Chicago, late last month announced it was changing the name of its insect repellent "Tabutrex" to "Tabatrex." The change became effective Oct. 1. Formulators and distributors were requested by Glenn to take note of the change and to revise their advertising, labeling and product information sheets accordingly.

#### **Harry Lipman Dies**

Harry Lipman, 57, president of Acme Shellac Products Co. and United Shellac Corp., Newark, N. J., died Aug. 29 after a brief illness. He began his business career as a stock boy for a wallpaper company at 19. Three years later he bought a paint store and in 1923 started Acme Shellac Products Co. During the 30's Mr. Lipman engaged in the manufacture of paints. He was also active in real estate interests.

Surviving are his widow, Frieda; a son Irving, who is connected with Acme; a daughter, Mrs. Betty Weisberger, and a brother and two sisters.

#### **Aniline Names Borghetty**

Hector C. Borghetty has been appointed general manager of foreign operations for General Aniline & Film Corp., New York, it was announced last month by John Hilldring, president.

Previously Mr. Borghetty was with Rohm Haas Co., Philadelphia, and prior to that held an executive position with General Dyestuff Corp., a division of General Aniline from 1938 to 1951.

Also announced was the appointment of Gerard E. Neisser as Latin American regional manager for foreign operations.

#### Lueders Elects Allstadt

Louis M. Allstadt has been elected a director of George Lueders & Co., it was announced last month by F. J. Lueders, president.

With the company for 23 years, Mr. Allstadt also has been appointed assistant to Frederick G. Buehler, executive vice-president.

"Fame," a new, non-wax preparation for tile and linoleum was introduced recently by Pierce & Stevens Chemical Corp, Buffalo, N. Y. In addition to the gallon size package shown "Fame" ("a blend of chemical polymers") comes in one pint and quart detergent round cans packed 12 to a case. Six I style oblong cans are packed in a case. In addition free "pillow-pak" samples containing a two ounce can of "Fame" are available. Four pillows are given free with each carton of "Fame."



#### **New Babbitt Promotion**

B. T. Babbitt, Inc., New York, has announced the completion of another coupon promotion, this time in the Albany, N. Y., area. Called "Babbitt's Tri-City Sweepstakes" and conducted in the cities of Albany, Schenectady, and Rensselaer, the campaign began with the mailing of 175,000 coupon packages to residents in the area. These coupons were redeemable for cash discounts on Babbitt cleaning and household products as well as on goods and services of local merchants. Entry blanks also were enclosed in the mailing for a cash prize contest.

#### Grady Calspray Vice-Pres.

Howard J. Grady has been elected executive vice-president and a director of California Spray-Chemical Corp., Richmond Cal., manufacturer of "Ortho" insecticides, fungicides, weed killers, and fertilizers, it was announced last month by A. W. Mohr, president. In his new post Mr. Grady assists in over-all management of the company.

. Most recently regional manager of marketing in the East with offices in Washington, D. C., Mr. Grady joined the firm in 1926 as a research entomologist. He was European representative from 1931 to 1939 and later served as branch manager of the company's Portland office and manager of the Pacific northwest sales district, successively.



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1. Surface Active Agents and Detergents by Schwartz-Perry.

Volume 1-590 pages, 51 illustrations. Covers manufacture, chemistry and practical applications of surface active agents. Price \$12.00.

Volume II—860 pages, 26 illustrations. Covers processes for synthetizing surfactants, composition of surfactants and their chemistry and application. Price \$19.50.

2. Detergent Evaluation and Testing by Jay C. Harris.

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#### **Coming Meetings**

American Oil Chemists Society, fall meeting, Sherman Hotel, Chicago, Oct. 20-22; 50th anniversary spring meeting. Roosevelt Hotel, New Orleans, April 20-22, 1959.

Association of American Soap & Glycerine Producers, 32nd annual convention. Waldorf-Astoria Hotel, New York, Jan. 20, 21 and 22, 1959.

Canadian Chemical Specialties Manufacturers, first annual meeting, Queen Elizabeth Hotel, Montreal, P. Q., Nov. 13-14.

Chemical Specialties Manufacturers Association, 45th annual meeting, Commodore Hotel, New York, Dec. 8-10; 45th midyear meeting, Drake Hotel, Chicago, May 18-20, 1959.

Entomological Society of America, sixth annual meeting, Hotel Utah, Salt Lake City, Dec. 1-4.

Industrial and Building Sanitation Maintenance, third show and conference, New York Trade Show Building, Nov. 3-6, 1958.

National Agricultural Chemicals Association, annual meeting, Gen. Oglethorp Hotel, Savannah, Ga., Oct. 29-31.

National Hotel Exposition, Coliseum, New York, Nov. 3-7.

National Packaging Show of American Management Association, International Amphitheater, Chicago, April 13-16; packaging conference, Palmer House, Chicago, April 13-15.

National Pest Control Association, 25th annual convention, Hotel Statler, Washington, D. C., Oct. 20-23.

National Sanitary Supply Association, industry management seminar and trade show, Fairmont Hotel, San Francisco. Oct. 19-21, 1958: 36th annual convention and trade show, Conrad Hilton Hotel, Chicago, April 12-15, 1959.

Plant Maintenance and Engineering Show, Public Auditorium, Cleveland, Jan. 26-29, 1959.

Salesmen's Association of American Chemical Industry, Sales clinic, Roosevelt Hotel, New York, Oct. 20.

Society of Cosmetic Chemists, seminar, Barbizon Plaza Hotel, New York, Oct. 8-9; annual meeting, Statler Hotel, New York, Nov. 20.

Synthetic Organic Chemical Manufacturers Association, monthly luncheons, Roosevelt Hotel, New York, Nov. 12: and Jan. 13, Feb. 10, March 11, 1959; annual meeting, Dec. 3, 1958.

Toilet Goods Association, 24th annual convention, Waldorf Astoria Hotel, New York, May 12-14, 1959.

Western Packaging & Materials Handling Exposition, Civic Auditorium, San Francisco, Aug. 11, 12 & 13.

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## Eale Ends

SOAPERS who have been using CMC in their detergents for many a moon will be interested to know that newspapers from the "Arkansas Gazette" all the way to the "Wall Street Journal" have recently discovered this "new synthetic gum which may lick the problem" of tattle-tale gray. Editors from coast to coast struggled to spell "carboxymethyl cellulose" correctly. Half of them missed. It all grew out of a paper given by one Jim Hensley of Wyandotte before a meeting of the American Chemical Society in Chicago last month.

It happened last month at a meeting of the Chemical Specialties Mfrs. Assn. board at Oyster Harbors Club down on Cape Cod, Mass. There were 13 people at the table. It was the first drink ordered. Alice Oppenheimer, wife of Len Oppenheimer of West Chemical, ordered a Bloody Mary, a nauseating concoction of tomato juice and vodka. The waiter miscued and the drink in toto ended up on the lady's brand new light lavender suit. All hell let loose. When quiet was restored, the lady ordered vodka and water, both colorless liquids.

Our abject apologies to Earl Brenn, v.p. of Huntington Laboratories, fnc., Huntington, Ind. In the August issue we stated in this column that he was the father of four girls. Our count was low by one girl. Earl is the father of five girls. Chicago papers please copy and pass word along to Walter Krebs of American Standard Mfg. Co. who recently announced the arrival of a boy which had been preceded by four girls. So, it looks like the Brenns and the Krebs are about even-stephen at this point. (See Earl's letter to the editor on page 39.)

Leon Miller who used to be the genial sales manager for Barrett and who now has the imposing title of "director of chemical sales for the Plastics and Coal Chemicals Division of Allied Chemical Corp." was the victim of our editorial error last month. We mentioned that he had spent his entire career "of more than years" with the company. Inadvertently, "42 years" was omitted, and if 42 years ain't a long time to spend with one firm, we'll cat gour hat in Macy's window any day.

It's here! A straight out and out toilet soap in acrosol form. It's a real fuxury product which retails for \$1.50 per unit and is put out by Angelique & Co. of Wilton, Coun. They say that the product has been knocking them in the aisles at toilet goods shows and displays, At \$1.50 per can, obviously it has not been designed for the poor and the needy.

A real battery of top brass will make up the main speaker program at the 45th annual meeting of CSMA to be held December 8-10 in New York. Included as speakers will be Dr. Leroy F. Burney, Surgeon General of the U.S. Public Health Service; George P. Larrick, U.S. Commissioner of Foods & Drugs; Osgood V. Tracy, president of Enjay Co. and v-p of the Esso Standard Oil Co.; Fred C. Foy, board chairman and president of the Koppers Co. Quite a galaxy of stars!

Tain't so, says Bob Engle of Trubek Laboratories out in East Rutherford. N. J. that the use of yellow laundry soap to patch up leaks in automobile and motorboat gasoline tanks and lines is new. He used such soap for this purpose five-six years ago and says we should set Jim Wheeler of Essential Chemicals, Inc.. Milwaukee, straight on this. Jim recently sent us a news clipping about this "new" use for yellow laundry soap and we published the facts here. So. Jim, old kid, consider yourself set straight!

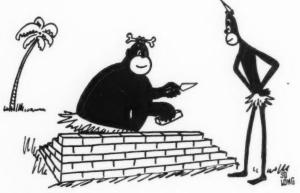
Bayberry soap! Shades of our grandmothers. The Carolina Soap &

Candle Makers of 16 Wall St., Asheville, N. C. are advertising their bayberry soap and candles in a local Asheville newspaper,—also invite you in to see them hand-make bayberry candles. They mention that bayberry is the fruit of the myrtle which grows in profusion on the sandy shores of North Carolina, Frankly, we didn't know that anybody was still making bayberry soap, a favorite of yesteryear.

That great game of skill, gin rummy, is now not alone in the category of skillful pastimes. Golf has been added, and by none other than that great gin rummy player, Jim Ferris of Hooker Chemical and president of the Chemical Specialties Mfrs, Assn. In a recent golf match at Cape Cod, on a par three hole, he missed his tee shot and lay 60-70 yards from the green in bad rough. Nothing daunted, he blasted a nine iron a mile high and into the cup on the fly for a gaudy two. Ah, yes a game of skill, no doubt!

A machine that will turn out close to 600 aerosol valves a minute—we said minute—is being tested by one of the major valve producers. Increasing the rate of production of valves, cans and aerosols themselves should mean lowered costs—also it means more pressure on salesmen for more orders.





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